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Ferryboats of British Columbia

People and Places in Canada

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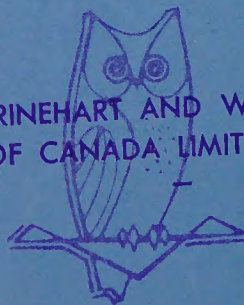
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Ferryboats of British Columbia



A sample study of an important
transportation system

An Inductive Approach

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The men of the Dogwood Fleet
The Greater Vancouver Visitors and Convention Bureau
The Glenbow-Alberta Institute
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Figure 1

I: British Columbia's Ferryboats

This is the story of the trip my sister, our friend Mr. Porter, and I made to British Columbia to learn about the ferryboats.

We travelled from Calgary and arrived in Vancouver in the middle of a dense fog. Mr. Porter explained that cold and warm water drifts meet there, causing the fog and preventing the Gulf of Georgia from freezing.

When the fog cleared, we went to see all the famous places in Vancouver — English Bay, Spanish Banks, Stanley Park and the Lions Gate Bridge. It was while we were looking at the bridge that we saw what we thought was a huge liner (see Figure 1 on opposite page). Mr. Porter told us that it was a ferryboat out on a trial run!

Exercise

1.

Canada has many islands. Look in your atlas and see if you can find at least ten big ones. Which is the biggest?

2.

In an atlas you will find a map showing the warm and cold water drifts, or ocean currents. You could draw small maps to show how they meet near British Columbia, near San Francisco, and in other parts of the world. Why is there a lot of fog off New-

foundland? Why does the coast of Norway never freeze? Find out the average January and July temperature, and annual precipitation at Prince Rupert, British Columbia; St. John's, Newfoundland; Bergen, Norway; Helsinki, Finland; San Francisco, U.S.A.; and Lima, Peru. Compare them, keeping in mind what you have discovered about warm and cold currents.

3.

Find a picture of a modern ocean liner, and compare it with our picture of the Queen of Esquimalt (Figure 1). What are the differences you see from the pictures?

4.

Write to the British Columbia Tourist Board to obtain a) a street map of Vancouver and b) information regarding where ferryboats make calls over the whole of B.C. Then find English Bay, Spanish Banks, and the Lions Gate on the street map and locate the ferry calling places on an atlas.

5.

What do you suppose the ferryboats carry to and from such stopping places as Vancouver, Victoria, and the more isolated communities and logging camps of the islands and north Vancouver Island. Would the season affect the type of passengers and cargo the boats carry?

We got up early and drove to the ferry terminal at Tsawwassen (see Figure 2). From looking at Figure 3, can you see why the ferries do not start from Vancouver anymore?

Finally we arrived at Tsawwassen, and drove down a long straight road leading out into the sea. We guessed the reason for this two-and-a-half-mile causeway: mud! Near the shore, the sea is too shallow for any kind of boat, much less a big one.

After we bought our tickets, we pulled into a huge deck full of cars, climbed out of the car, and shot up the first stairway we could see. We had some exploring to do.

The first place we came to was the souvenir shop. We found where we could sit down, so we sat down. It was quite boring in there. People were just sitting reading newspapers, or just sitting looking at each other. The only interesting things were all the pipes in the ceiling (see Figure 4).

Figure 2

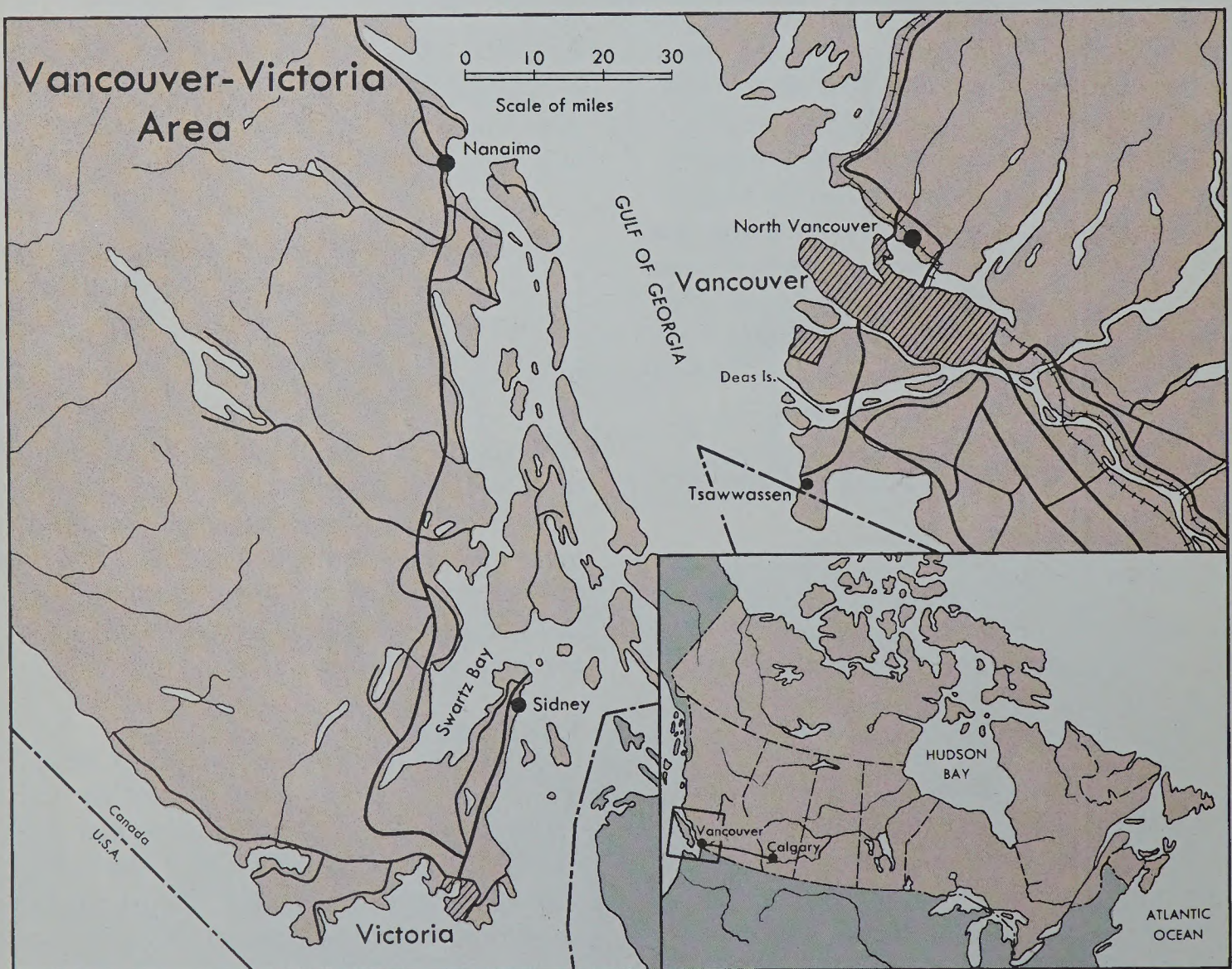


Figure 3





Figure 4



Figure 5

Exercise

1.

Have you ever sat in a waiting room? What could you do to make it a more interesting place?

2.

Next time you visit a bus station, or an airport, you could make a list of all the different things they sell in the souvenir shop and the newsstand. Ask the clerk what people buy most of.

3.

Why do you think there were pipes in the ceiling on the Queen of Sidney?

When we went into the dining room for lunch, we heard a lot of clanking and whistles, and knew that the ship was leaving. The family at the next table didn't even seem to notice! What do you think could be the reason for this?

We sat down at our table and noticed that a map of the ferryboat routes was printed on the napkins and that "Dogwood Fleet" was written on the menu cover. All the boats have a dogwood flower on the smokestacks. What do you think the dogwood stands for?

We ate our lunch so fast I can't even remember what it was. When we got out on deck we were already at sea. We just stood at the back and looked at the wake of the ship and at the sea gulls which kept up with us without even flapping their wings (Figure 6).

Exercise

1.

Find out what a dogwood flower looks like.



Figure 6

Do you know any other flowers that are used as emblems by countries, towns or companies?

2.

Have you ever seen a napkin that you could save as a souvenir? What other things can be souvenirs? Perhaps you know someone who has a collection of souvenirs of different parts of Canada. You might find it interesting to make a class exhibition of souvenirs. Why do you think companies like to give out souvenirs?

We went with Mr. Porter to visit the bridge. A man was standing at the wheel, which looked just like the wheels on old sailing boats in a book we'd been reading at home. The walls were covered with dials and cupboards, and as you can see in the picture, there was a shelf full of rolled-up flags.



Figure 7

Exercise

What do you think the rolled-up flags were for? Do you know how this kind of flag is used? Perhaps the local scout troop can give you some ideas.

Figure 8





Figure 9

The Captain went out onto the bridge to steer the ship safely through the rocks. He kept giving signals on a machine (Figure 8) which made a ringing noise when he pulled the lever. We guessed that the machine sends signals to the engine room. Can you tell what it signals to the officers there? Why do you think the Captain was standing on a stool?

Mr. Porter said we'd better leave until they got through the narrows. He had another friend he wanted us to meet. We walked right behind the counter in the cafeteria, where they kept the salt and glasses and spare plates, and into the kitchen at the back. There we met Mr. Wong, busily cutting meat.

Most of the cooks seemed to be from China. Some were washing dishes, one was stirring a huge dish of gravy, and another was fixing some vegetables. Mr. Wong invited us to meet his family in Victoria. We decided to go the very next day to interview the Wongs.

Exercise

Have you ever been behind the counter or in the kitchen in a restaurant or a cafeteria? If not, visit one as soon as you can, and ask if you can have a look.

II: Meet the Wongs

The next day we went to meet Mr. Wong and his family. We had settled on a definite time to see them because all the ferryboat employees work on shifts which change at different times of the year. More people use the ferries in summer, so there is more work to be done.

You can see Mr. Wong coming out of his house to meet us.

Mr. and Mrs. Wong took Mr. Porter inside to look at the house. I decided to interview the boys, and my sister went off with Julie and Jeffrey.

Leslie is 13 years old and in Grade 8. He couldn't stay long because he had to go and deliver papers. He has about 70 customers on his route for the *Victoria Daily Times*. Before Leslie left he told me that he does not

Figure 10



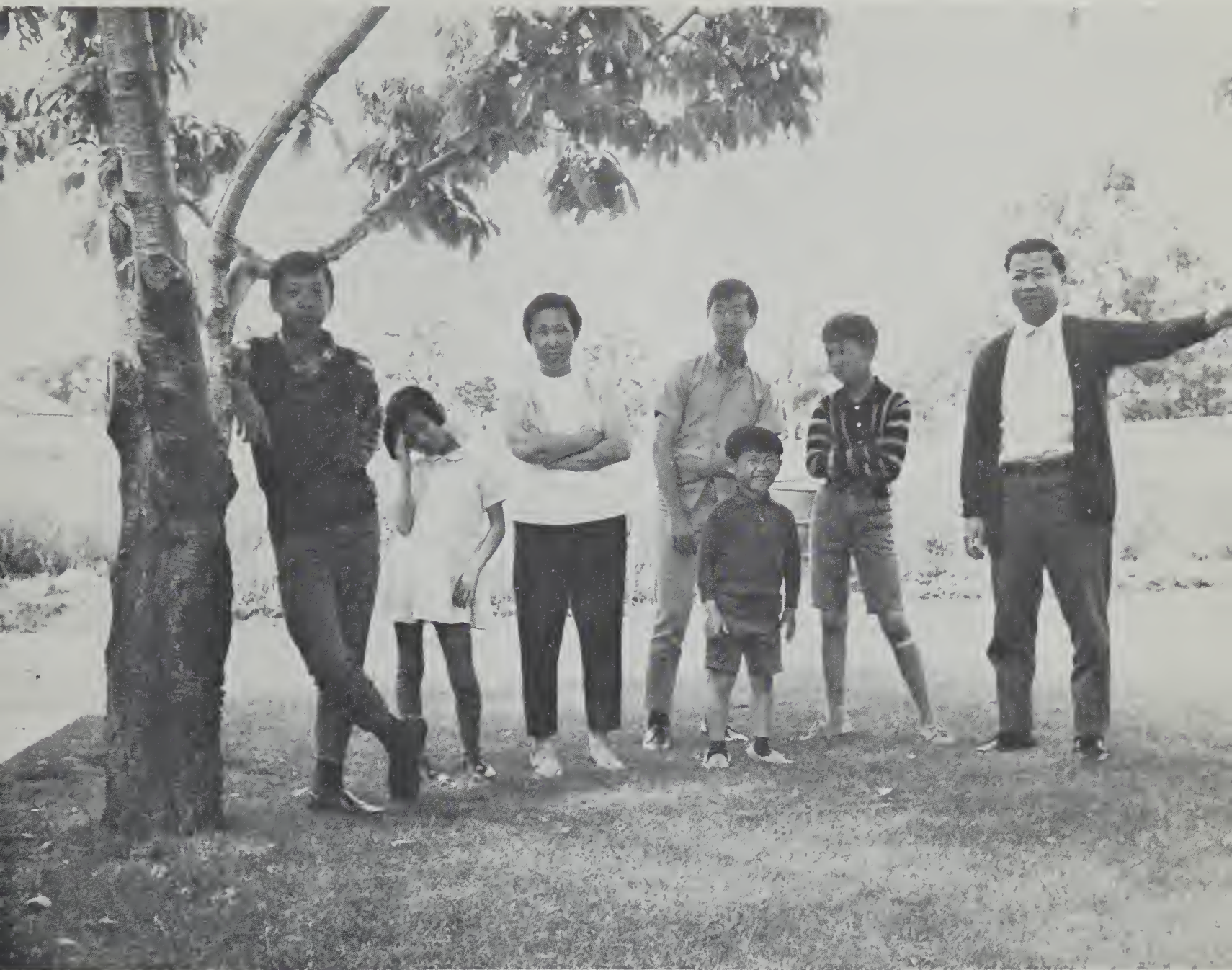


Figure 11

This is a picture we took of all the family on the lawn. From left to right are Leslie, Julie, Mrs. Wong, Henry, Jeffrey, Jimmy, and Mr. Wong.

want to work on the ferryboats when he leaves school. He wants to be an electrician or an electrical engineer.

Henry is 14 and in Grade 9. He told me it was lucky we'd come on a Tuesday, because

on Friday after school and on Saturday he works in a restaurant downtown. He, too, does not want to work on a ferryboat because of all the shift work.

"I would rather be an engineer," he said.

"Couldn't you be one on a ferryboat?" I asked.

He didn't seem too sure, but said that it was just routine work on a ferryboat, although it might be a good job. I decided to ask the engineers on the next boat we took.

Exercise

1.

Since you were 9 have you changed your mind about what you want to be?

Figure 12



2.

Do you know the difference between an electrician and an electrical engineer?

3.

Find out what everyone in your class wants to be. Then visit another Grade and request the teacher to ask her class what they want to be. Compare the two sets of answers. You can add extra age-groups if you want to do a bigger survey.

4.

Find out how many people in your class have part-time jobs, and what sorts of jobs are available to your age-group. You might want to have a class discussion afterwards.

Mrs. Wong invited us to stay for supper. She asked Mr. Wong to get some *gai choy* for the soup. We followed him into the garden where he showed us *gai choy* (Figure 12), *bok choy* (which looks like cabbage), as well as familiar vegetables like beans and lettuce. Do you know of any other Chinese vegetables or fruits?

After supper we had Chinese tea, and Mr. Wong showed us how he writes his name in Chinese.

黃博基
WONG BOK KAY

Then we had a real surprise: he showed us a picture of Hong Kong and said that it looks like Vancouver (Figures 13 and 14). Do you think so? Can you tell which photograph is of Vancouver and which is of Hong Kong? Make a list of all the ways the two cities look alike. See what you can find out about them from books and papers.

"I came over here twenty years ago when I was just eighteen," Mr. Wong said, "to look for a job as a cook or as a seaman. I took a lot of courses in the evening, and finally got my present job on the boats nine years ago. I like it. It's a good steady job, and it's enjoyable work."

Mr. Porter asked if the Wongs all had

holidays together, and where did they go, but they said that with shift work and with school holidays not being the same as Mr. Wong's holidays — well, somehow they never managed to. Mrs. Wong said that they all went to Vancouver about twice a year, especially for the New Year.

I asked Mr. Wong if he would rather work on a big ocean liner, but he said that he wouldn't.

"I'd be away from home too much," he said. "A lot of the men on the ferries have been deep-sea sailors, but when they have children they like to stay closer to home."

Mr. Porter asked him what the deep-sea sailors think of the ferryboat men, and Mr. Wong laughed.

"Well, they call us fresh-water sailors and other things like that, but I think it's really because they're jealous."

Exercise

1.

What other jobs might take a man away from home for long periods? Do you know anyone who has a job like that? What does he think of being away from home for so long?

2.

Do you have enough space to play in when you are not at school? The Wongs and their neighbours have put their yards together so that there is more space to play in. Do you think it is a good idea? You might have a discussion about play space and private yards.

3.

Perhaps you could make a map of your neighbourhood, showing all the play spaces, as well as marking in where people actually do play.

Figure 13



Figure 14



III: Ship's Language

We spent some time in Victoria Public Library looking for nautical terms. We had decided that we would have to know the language of ships if we were going to write about them.

The following extract is from a book we found by Herman Melville,* who, according to Mr. Porter, was a great nineteenth century writer and seaman. Do you know other writers who told stories about the sea?

Hardly had they pulled out from under the ship's lee, when a fourth keel, coming out from the windward side, pulled round under the stern, and showed five strangers rowing Ahab, who, standing erect in the stern, loudly hailed Starbuck, and Flask, to spread themselves widely, so as to cover a large expanse of water. But with all their eyes again riveted upon the swart Fedallah and his crew, the inmates of the other boats obeyed not the command.

"Captain Ahab? — " said Starbuck.
"Spread yourselves," cried Ahab; "give way, all four boats. Thou, Flask, pull more to leeward!"

"Aye, aye, sir," cheerily cried little

King-Post, sweeping round his great steering oar. "Lay back!" addressing his crew. "There! — there! — there again! There she blows right ahead, boys! — lay back!"

The ferry back to Vancouver puzzled us (Figure 16). Can you tell the bow from the stern and which is the main deck, the one with lifeboats, or the deck below? My sister opened her big blue book called the *Navy Reader*, and said, "MAIN DECK. The highest deck extending from stem to stern; sometimes known as the weather deck."

"But what's the stem?"

"STEM. The timber at the extreme forward part of a boat secured to the forward end of the keel and supporting the bow planks." Each new nautical term led to another one that we didn't know, so we began to make a list. You should be able to find these words in your dictionary. If you find other nautical terms in your reading, add them to this list:

Combing	Gangway	Knot
Conning	Gunwhale	Leeward
Deadhead	Hawser	List
Flotsam	Helm	Log
Fouled	Hull	Lubber
Galley	Jetsam	Painter

*From *Moby Dick*, by Herman Melville, (Holt, Rinehart and Winston, New York, 1957), pp. 214-215.

NEWS ITEM: ADMIRALS TO BE CALLED GENERALS IN NEW CANADIAN ARMED SERVICES



"... I dunno, bo'sun, all I asked the Admiral was if it was OK now to call the bow the front, the deck the floor, starboard the right and ..."

*By permission of *Vancouver Sun*, November 5, 1966.

Passageway	Scuppers	Stow
Port	Shipshape	Swamp
Riptide	Sound	Topsides
Running Lights	Steerageway	Windward

That night after our trip to the library, I wondered what it was like pacing the poop, and so I paced up and down the room until my sister came to ask what I was doing.

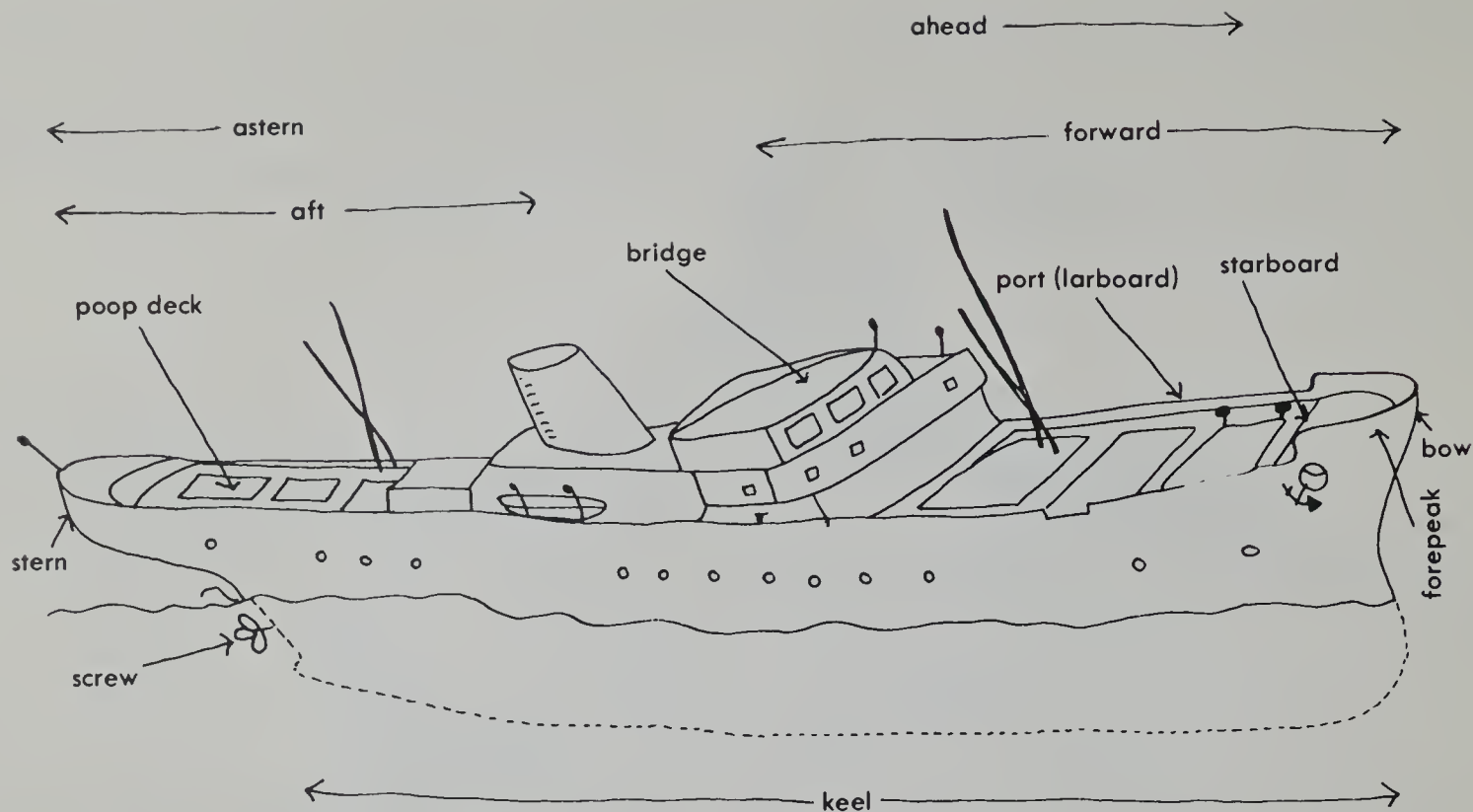
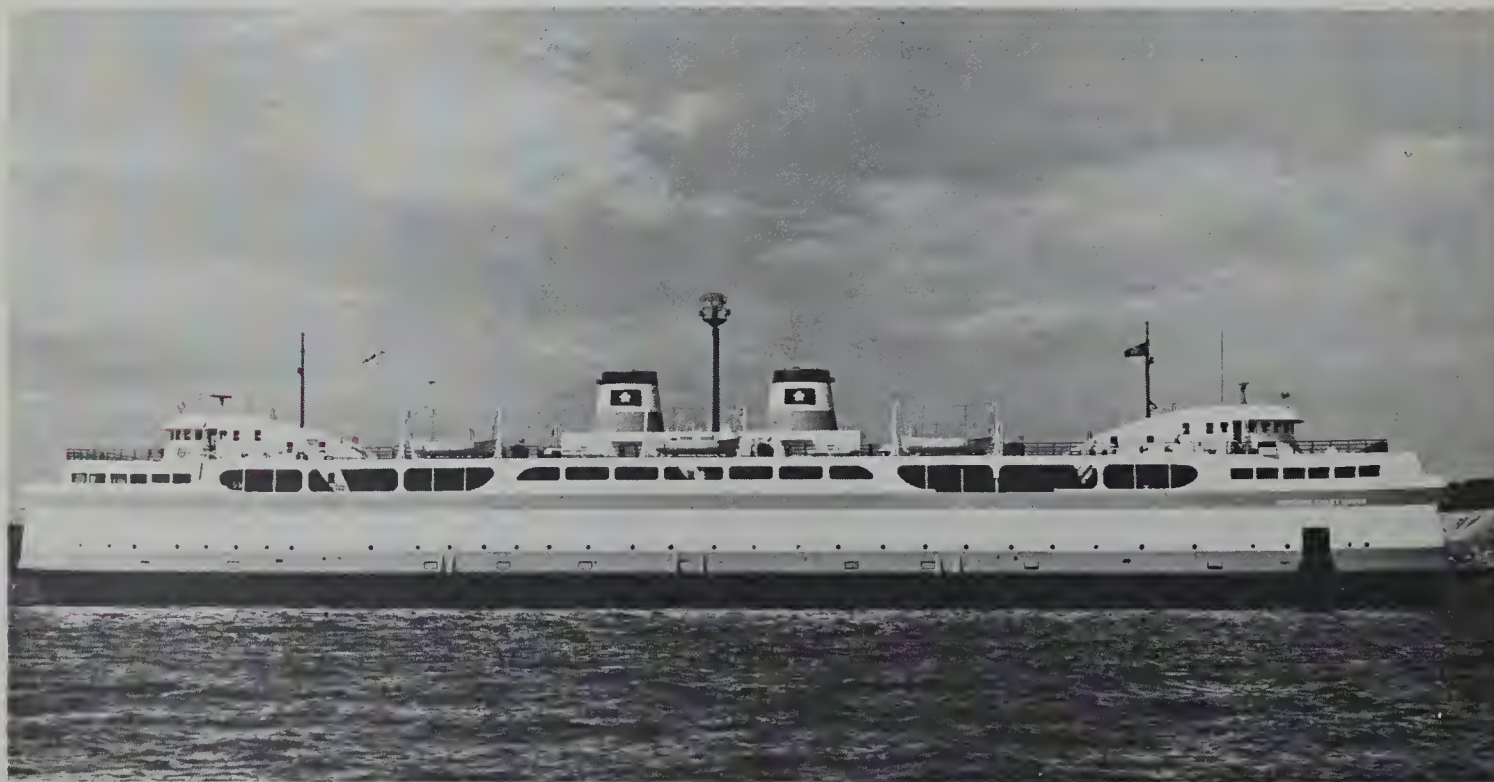


Figure 15 *Diagram to show what some of the technical terms mean.*

Figure 16



"Steadying her head and setting my course south, of course!"

"Your port side running lights are out and your forepeak is holed!" she returned.

"Yes, but you have a heavy list to larboard and your topsides are awash!"

Our nautical argument ended there and she went back to her room. The sleep that fell over me was as heavy as a deadhead.

Exercise

1.

See if you can find other examples of special "languages" in the paper or in your books,

or on television. You might try to spot military language, show business language, political language, and so on.

2.

If you know somebody with a small boat or a yacht, ask him to let you make a diagram of the boat, and fill in all the names he can tell you.

3.

Mr. Porter took this picture (Figure 17) on another trip, to show the lifeboats hanging on their davits. Can you tell which kind of turn the ship has just made? You must use ship's language.

Figure 17



IV: How the Ships Work

I was looking forward to visiting a ship's engine room. We got up early and put on old clothes, because the engine room would be very dirty. From Victoria, we set off north to Sidney and Swartz Bay. Mr. Porter said that this is where all the ferry-boats come for refitting and repairs. For re-

building, they go to Deas Island, in Vancouver. See the map on page 1.

Mr. Erb, the Senior Chief Engineer of the *Queen of Saanich* was waiting for us. He took us first to the small workshop you can see in Figure 18.

Mr. Erb said he used to be a deep-sea

Figure 18



sailor in the merchant marine. My sister asked him what he had to do to become a chief engineer.

"I had to be able to take the whole ship apart and put it back together," he replied, "and know how every bit of equipment works. I needed a chief engineer's ticket from a passenger vessel, which is harder to get than from a freighter. Do you want to be an engineer?"

She said that she did.

"That would make you the first lady Chief Engineer in Canada," he said.

Exercise

1.

Why do you think it is harder to get a chief engineer's ticket on a passenger vessel?

2.

If you've never visited a workshop, you should as soon as you can. You could spot things in our picture which aren't in the workshop you visit.

3.

Does the workshop in the picture look tidy? Why do most engineers and mechanics like to keep their workshop tidy? Do you think all rooms should be tidy? This is something people don't agree about.

4.

In some countries women can be engineers and even ship's captains. Try to find out which jobs women can't, or don't, do in Canada. Which jobs do you think women shouldn't be allowed to do?

We wanted to see what an engine looked like. Figure 19 shows some important parts of the engine we saw. Do you know what these parts are and what they do?

Mr. Erb told us that the control system is not the same on every ship. Some are fully automatic so that the captain has only to pull a switch up on the bridge. Some, like the *Queen of Saanich*, are partly automatic. Even older ones operate with an engineer receiving instructions all the time.

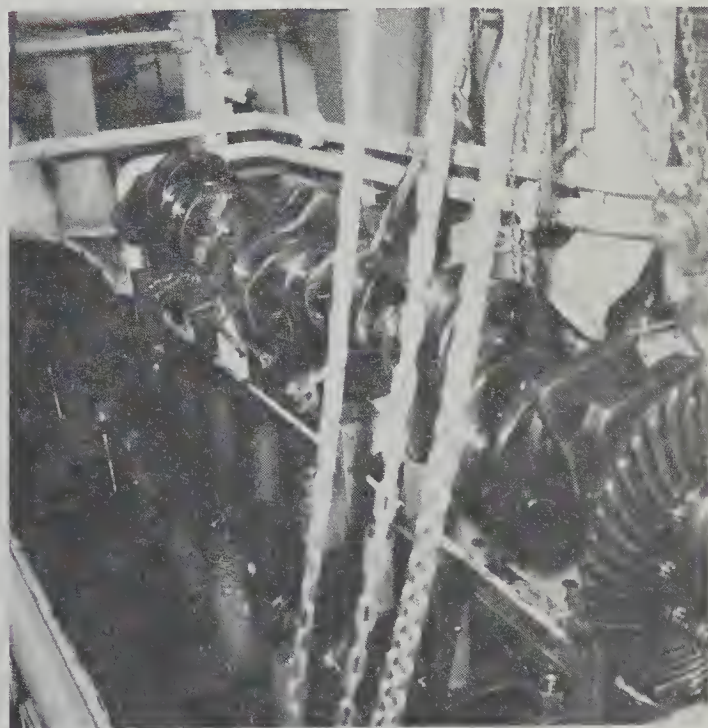
"How many engines are there?" I asked.

"The *Queen of Saanich* has four main engines and three auxiliary engines. The main engines, linked in two pairs, have 1660 h.p. (combined total of 6640 h.p.) and 20 cylinders (pistons) each. The auxiliary engines have either 500 or 800 h.p. each."

We wanted to know why the pipes that covered the walls and ceiling were coloured. Mr. Erb explained that the colours tell the engineers what each pipe is for in case anything needs fixing.

"Then there's the lube system," he went on.

Figure 19



"What's that for?" I asked, feeling really confused by now.

"That pumps the right amounts of lubricating oil into the engines. In older ships, each engine must be lubricated separately."

"What's this for?" my sister interrupted, pointing to the big tank-shaped thing behind the lube system (see Figure 20).

"That's the boiler," replied Mr. Erb. "It provides the ship with hot water which goes through the big pipe up there."

Exercise

1.
Ask the engineer in your school to show you through the school heating plant. What kind

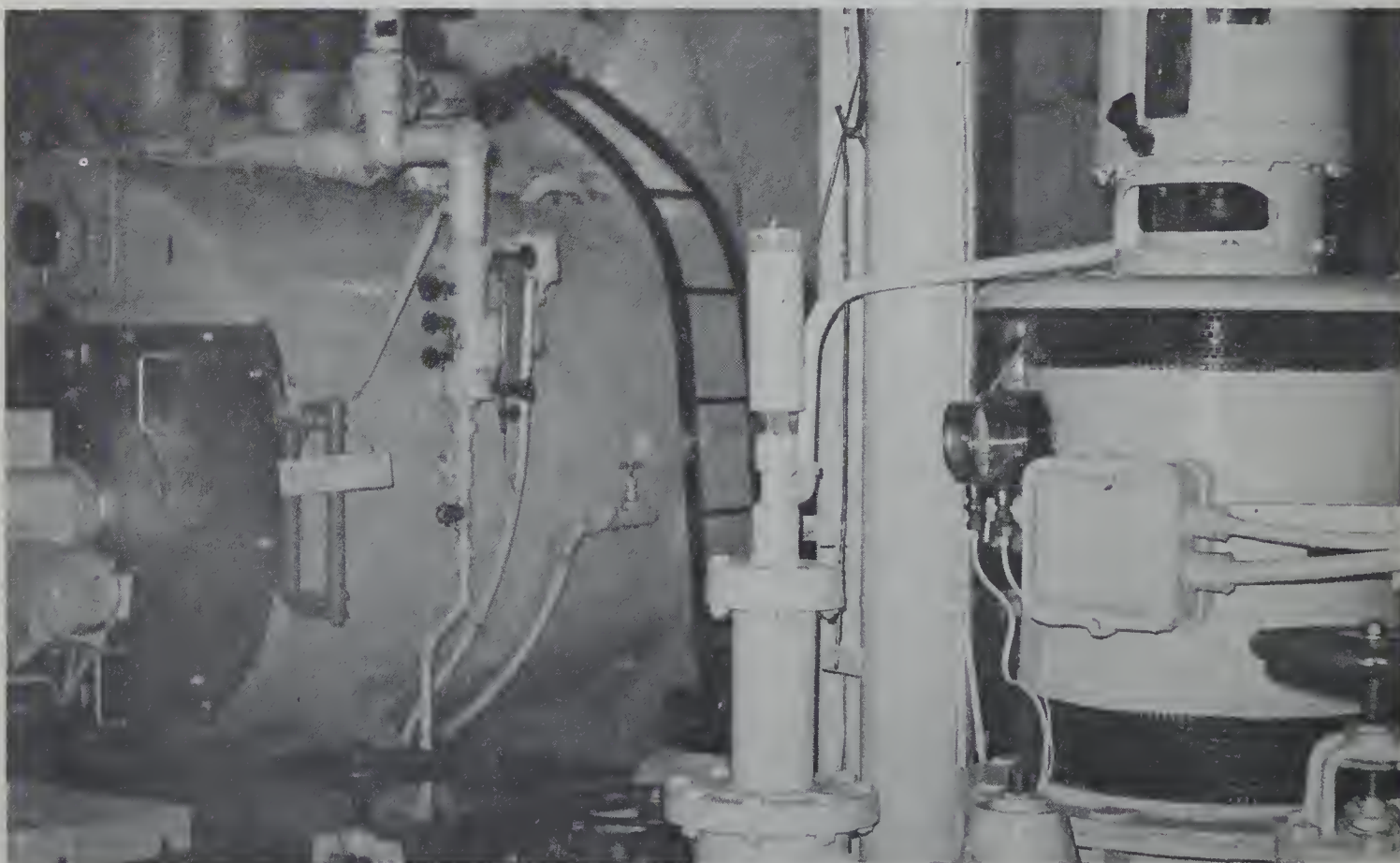
of fuel is used in your school? Are the pipes painted different colours? Which are which? Does the engineer have to be on duty all the time? What about weekends and holidays?

2.
Next time somebody is stripping a car engine, ask him to show you the lube system, the crankshaft and the pistons.

3.
Find out what "horsepower" is, and how it is measured.

4.
Find out the horsepower of some other big engines, like a jet aircraft and a bulldozer. What about a moon rocket?

Figure 20



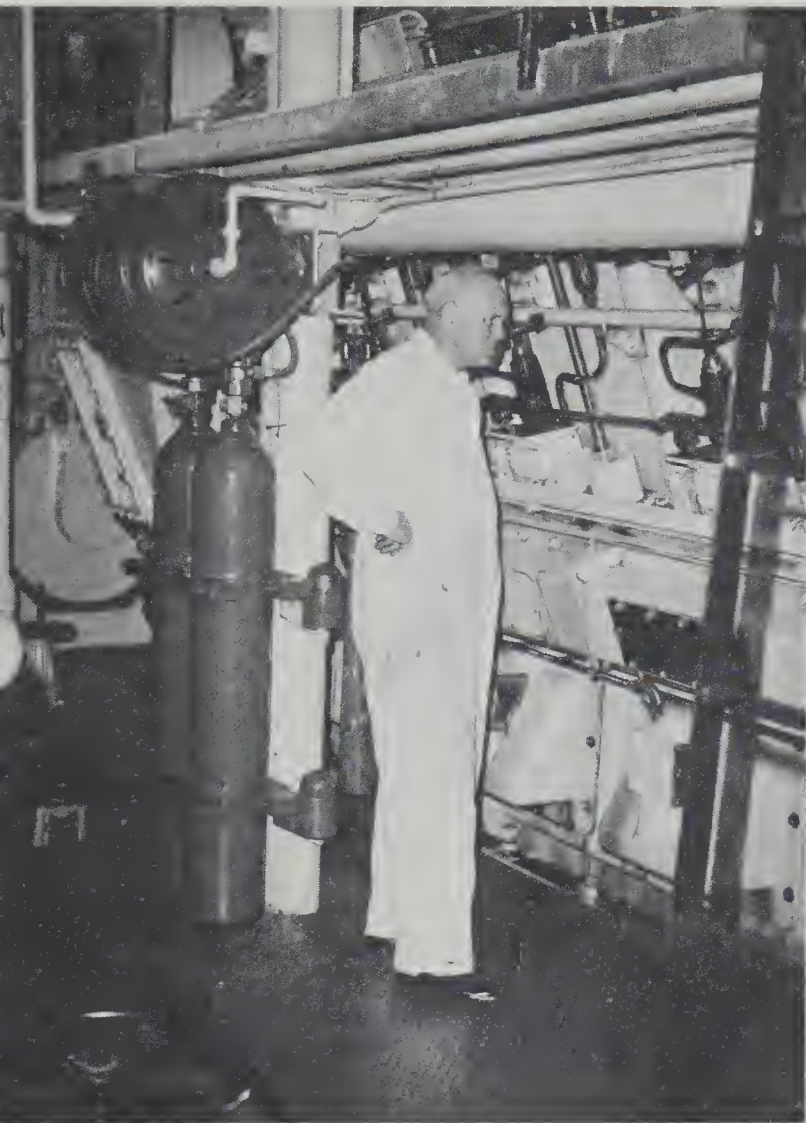


Figure 21

Later, we visited the *Queen of Sidney's* engine room while it was out at sea. Figure 21 shows Mr. Geddes, a Chief Engineer on the *Queen of Sidney*, looking at one of the engines. Can you make a good guess at what the big iron tubes and the hose are for?

The engine room was filled with clanking and hissing noises and hot, oily air. The metal floor shook with the noise, which, in turn made us feel like we were vibrating all over. Finally, we went into the control console, which was quieter because it was in a little room with a glass window. You can see

some of the dials, clocks, lights and levers in Figure 22.

This engine room seemed even more complicated than the *Queen of Saanich*, perhaps because of the noise. We have put this picture (Figure 24) in four times, to see if you can tell which way is up. We didn't know whether we were standing on our heads or our feet. The wheel shown in the picture is used to stop or start the engine.

There was no place really quiet in the engine room, and no place for us all to sit down, so we climbed up another staircase and found ourselves in the mess room, where the crew eat their lunch. We found one engineer there, who told us that usually the men find time to come up for a rest. He also told us that the best time for a rest is when the ship is in dock, because then the engineers can dash upstairs and get a cup of coffee or something to eat before they leave dock again.

He just started explaining to us how the ship's screws are used to stop the ship, when he looked at the clock, jumped up, mumbled, "Glad to meet you", and rushed off back to work.

If you can get to visit a factory, make a note of where the workers can take their coffee breaks. Where do you take breaks in your school?

Class Project

Your public library may be able to find for you a book with many detailed explanations of how things work on shifts. The book is the Seaman's Handbook, B.R.C.N. 3029. See if between you you can find out different aspects of how shift work affects the lives and workings of ships and men.

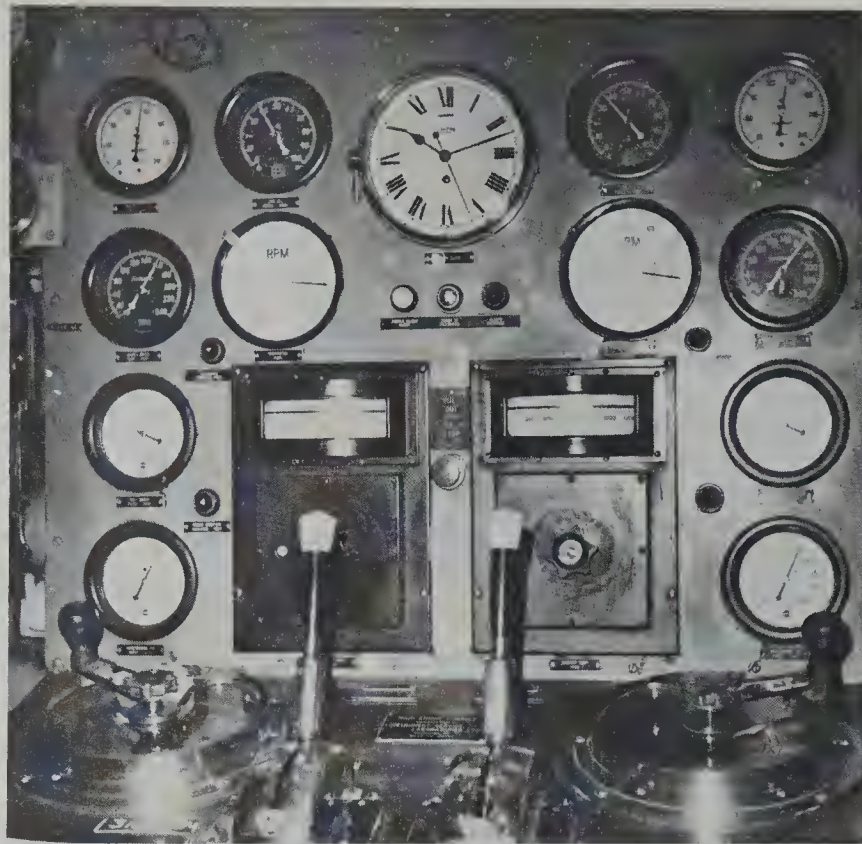
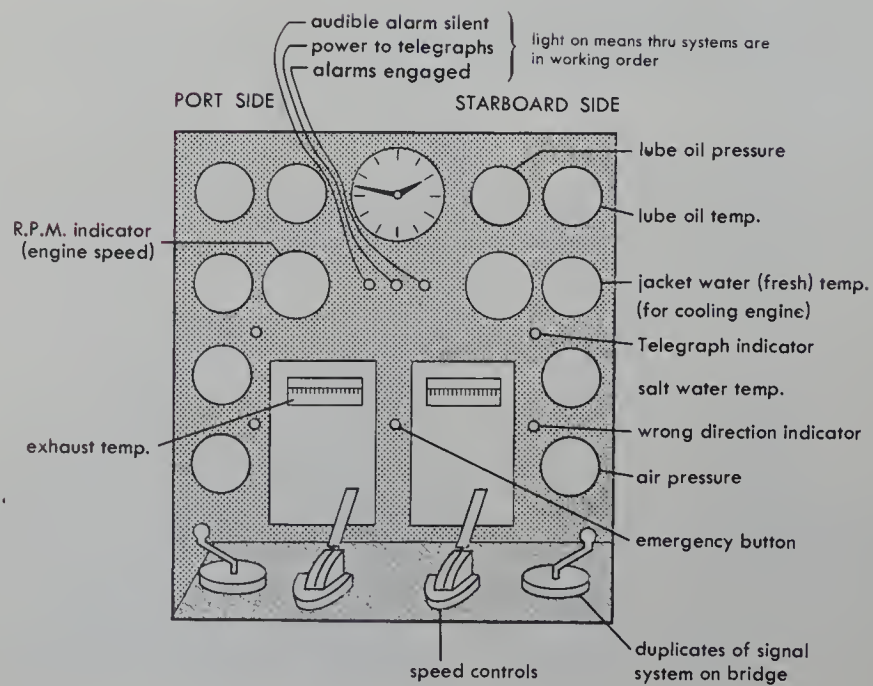


Figure 22

Figure 23



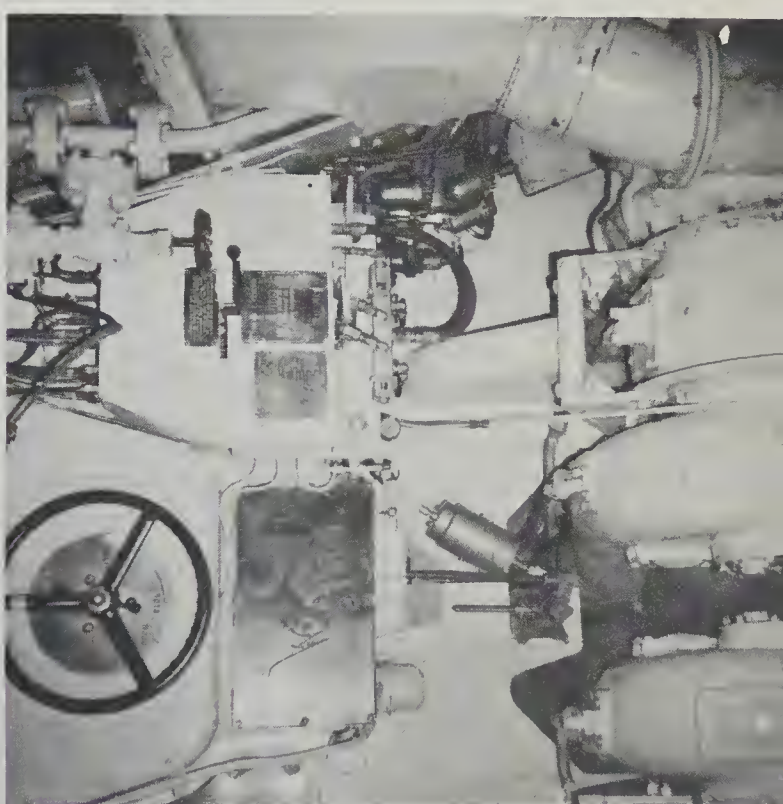
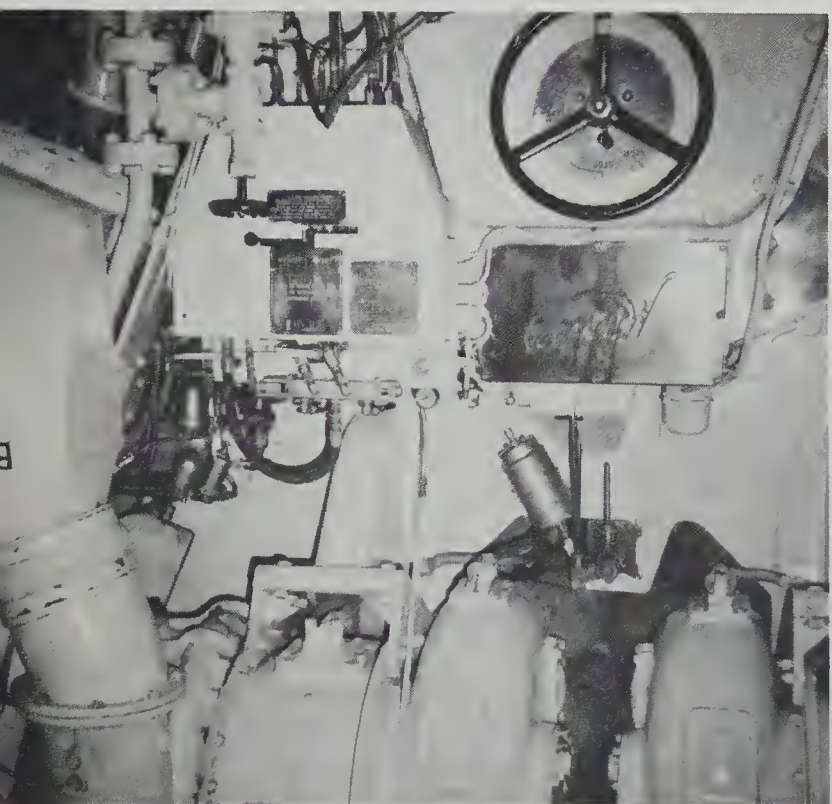
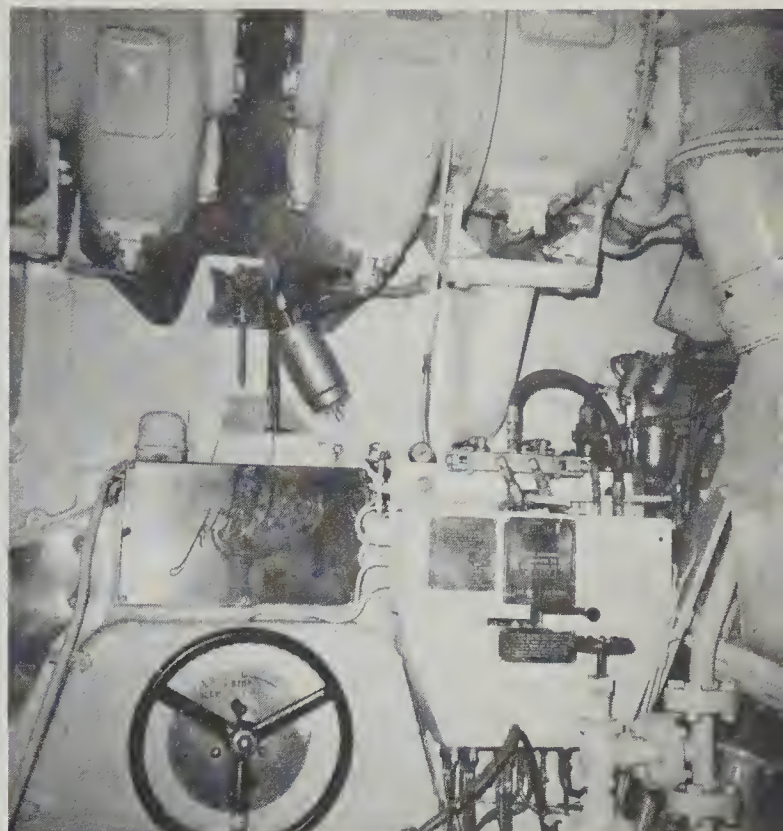
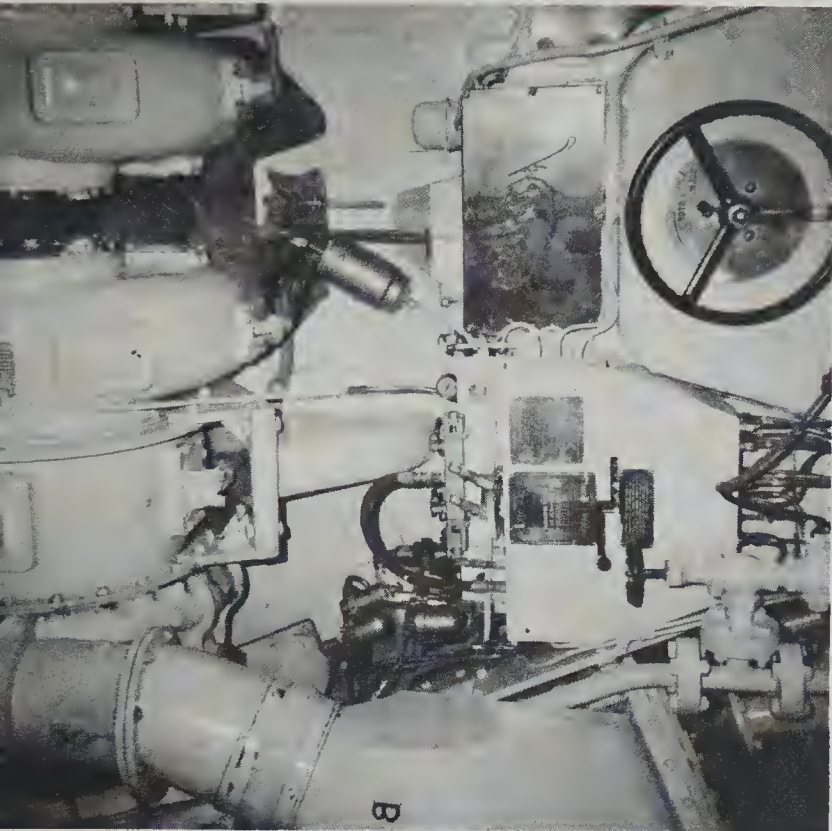


Figure 24

V: Navigation

It's more difficult to sail a boat than to drive a car. The sea doesn't stay still and a ship doesn't have brakes. A mariner's main worry is going aground, especially on rocks which may tear a hole in the hull and sink the ship. Even getting stuck in the mud is a nuisance. Ship's maps, or nautical charts, such as the one in Figure 25, are more concerned with the bottom of the sea than with the land.

Exercise

1.
One fathom equals six feet. Imagine you were sailing a ship drawing four fathoms (it would be quite a big ship). Shade in all the parts of the sea that would be too shallow, where your ship would almost certainly be grounded.

2.
What uses do navigators make of the land?

3.
Locate on the map in Figure 25 as many places mentioned in the following extract as you can. Do you know what speed one knot is equal to? what distance one cable is equal to?

Tidal streams. — A tidal stream velocity of from one to 2 knots may be expected in Colburne Passage, the flood stream

setting westward, and the ebb in the opposite direction.

Knapp Island is about 5 cables north-northeastward of Swartz Head; it is 160 feet (48m8) high and wooded, and has a large rock, which dries 7 feet (2m1), extending to a distance of about a cable off its southeastern point.

Piers Island, 280 feet (85m3) high, lies with *Wilhelm Point*, its south-eastern extremity, about 7¾ cables north-northwestward of Swartz Head. The island is wooded, except at its northern end, and drying rocks fringe its northeastern side to a distance of 1¼ cables offshore in places. The outermost rock on this side is *Peck Reef*, which dries 13 feet (4m0). Close off the southwestern side of the island is *Patrol Island*, 15 feet (4m6) high.

Dangers. — Two detached rocks, covered less than 6 feet (1m8), and others with a depth of 9 feet (2m7) over them, lie within 1¼ cables of the southern point of Piers Island, and a reef, with several heads covered less than 6 feet (1m8), is about 1½ cables off the shore of Saanich Peninsula abreast the southwestern side of Piers Island.

Swartz Bay. — *Ferry Landings.* — At Swartz Bay, on the southern side of Colburne Passage, a short distance westward

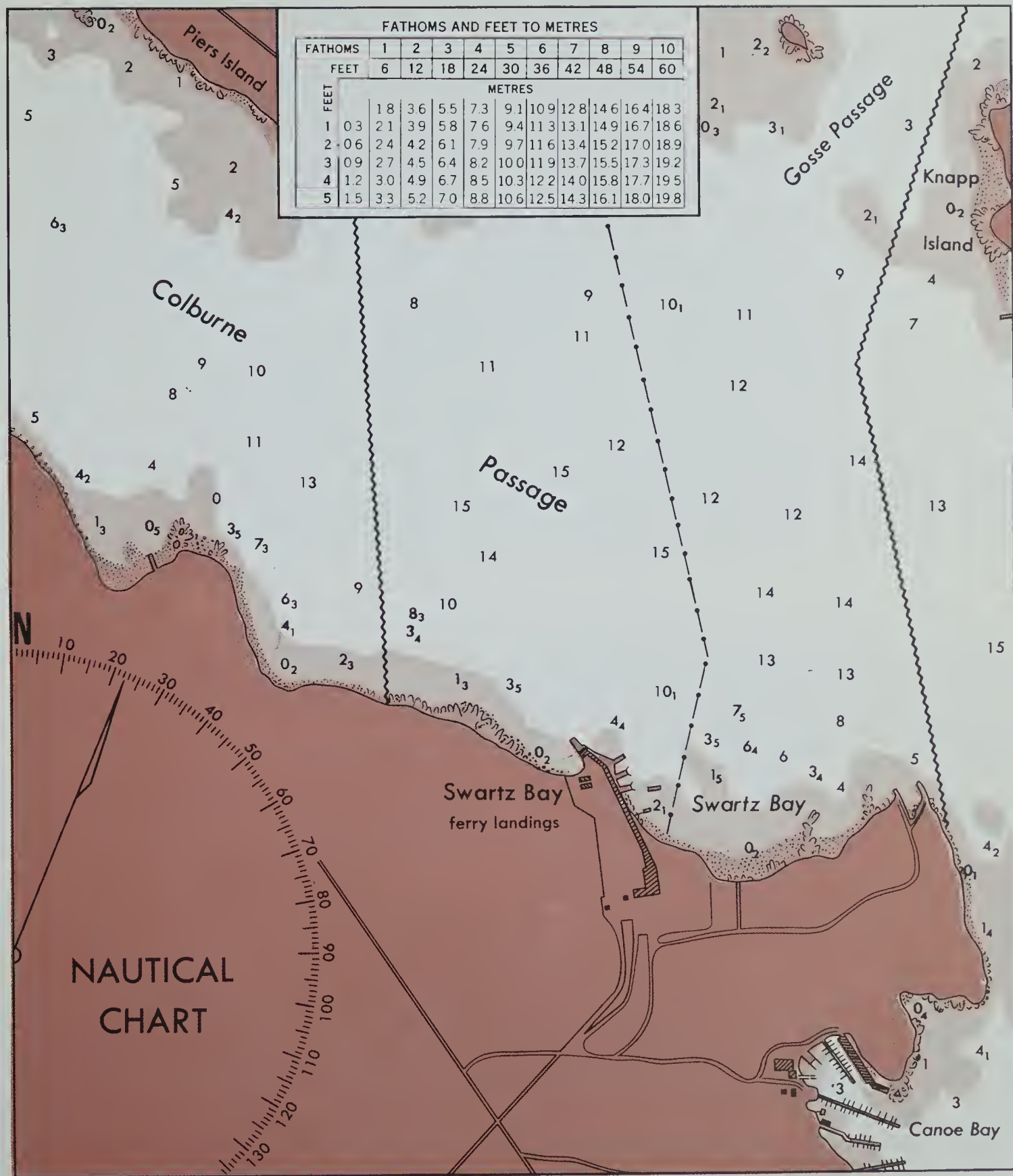


Figure 25

of Swartz Head, there are three ferry landings, close together, and one lay-over berth, all of which are used exclusively by the B.C. Government ferries which provide frequent services, carrying passengers and automobiles, to Tsawwassen, and to various places in the Gulf Islands. There is direct road connection with Victoria.

Light. — Fog Signals. — A light is exhibited from the northeastern side of the outer end of the main structure of the western ferry landing.

Fog signals are sounded from both the eastern and western ferry landings.

Caution. — Small craft should, at all times, keep well clear of the before-mentioned landings in order to give the ferries the maximum possible space in which to manoeuvre.

Submarine cables and pipeline. — Three submarine cables and a submarine pipeline cross Colburne Passage as charted, and for this reason vessels should not anchor to the eastward of Swartz Bay.

Caution. — Vessels passing through Gosse Passage should do so at reduced speed and keep the above-mentioned light buoys close aboard. Small craft should keep clear of ferry traffic and other large vessels using the passage.*

We were on the *Queen of Sidney* going north to Tsawwassen, when Mr. Porter interviewed Captain Callan:

Question: "Captain Callan, do you pay

*From *British Columbia Pilot*, (Queen's Printer, Ottawa), pp. 168-169.

much attention to the marine weather reports?"

Answer: "Yes, especially in the Gulf of Georgia. Prevailing southeast gales can give us quite a bit of trouble when we are docking at Tsawwassen. That is why the breakwaters had to be built." (See Figures 26 and 27.)

Question: "How much do you have to worry about the tides when you are navigating the ship?"

Answer: "Well, on this run we have to worry about depth only on our approach to Swartz Bay. Normally we come in through Gosse Passage. Incidentally, a large rock in mid-channel is going to be blasted out at the end of the summer, and then we will be able to come in through Gosse Passage all the time." (The ship draws twelve feet. How many fathoms is this?)

Question: "What about tidal currents?"

Answer: "Yes, currents are a different matter. We have to be extremely careful, especially when we are docking, for a strong current could easily swing the ship into the dock and cause a lot of damage. Most of the ships now have bow propellers which make docking a lot easier when there are currents. Otherwise, when we are underway, currents don't give us much trouble."

Exercise

1.

Using Figures 26 and 27 together, draw a plan of the terminal, and label as many details as you can identify from Figure 26.

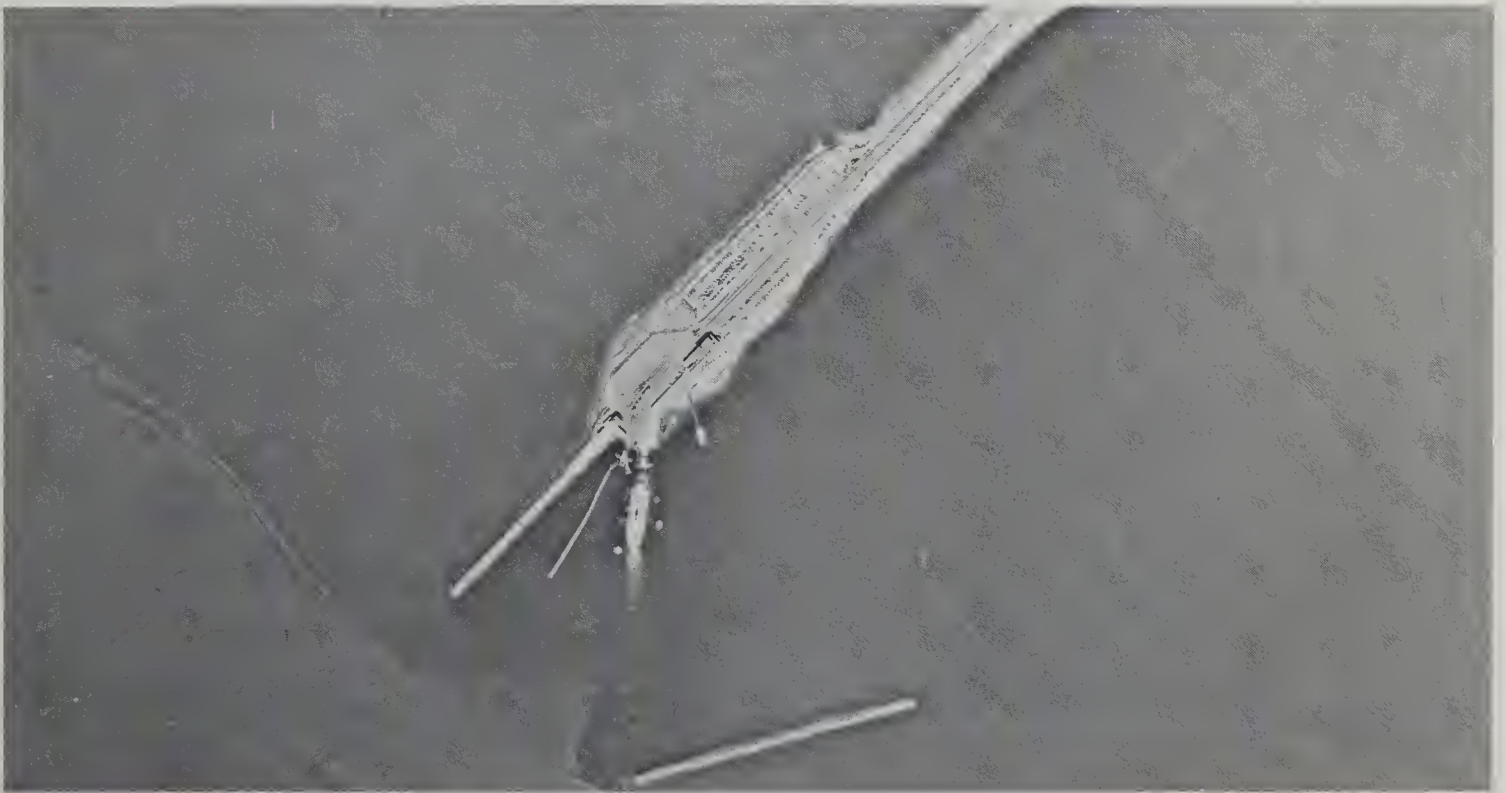
2.

Why do you think the breakwaters are placed as they are? You might make a guess at the usual wind directions.



Figure 26

Figure 27



3.

Draw a map of Sidney and Swartz Bay area from Figure 28. Part of this area is shown in Figure 25.

4.

What details of the land did you get from Figure 28 that you could not obtain from the sea map?

5.

If you can get an air photograph of your area, draw your own map of your locality.

Figure 28



The navigation light mentioned in *Light-Fog Signals* in the extract on page 26 is attached to a radar reflector. Find the meaning of radar in your dictionary. Captain Callan let us look into the radar screen (see Figure 29). Without a special camera, we couldn't take a picture of the green screen, rotating green light, and white blotches we saw inside. (The white blotches were ships.)



Figure 29



Figure 30

Figure 30 shows two radar scanners on the mast. The top one is the long-range scanner, and the bottom one is for short-range work, like docking the ship.

Some people keep diaries to help them to remember what they have done. A ship must keep a diary or log book; everything that happens is written down by one of the officers. On one of our ferry trips the ship hit a floating chicken coop; we saw the First Officer record it in the log book.

Exercise

1.

Make your own log book of a journey to school. See how detailed and accurate you can make it. You may need to borrow a watch.

2.

Try to find a picture of a radar screen, or better still, get to look at one.

B.C. FERRIES

Drafts.

WHEELHOUSE ROUND VOYAGE LOG SHEET

For'd:

Aft: 13' 2"

Voyage No. 3243

M.V. Queen of Sidney

Master on Duty: Captain J. Callan

Date: Wed. 21st May, 1969

Point	Time	Mins. Run	Course	Sea	Wind & Weather	Tide	Revs.	Remarks	Barometer	Vehicle Count	
			Gyro							Autos	Other
Dep. Swartz Bay	0704			Smooth	Calm, Fine & Hazy	Ebb			29.91	75	10 Tks.
Co. ahead	06	2	005								
K. P. Lt.	09	3	010					F/S 0709 Full away			11 Pes.
Kanaka Bl.	15	6	033								
Beaver Pt.	25	10	011							75	21
Red. Is.	35	10	352							96	
Portlock Pt.	39	4	333								
Enterprise Rf.	43	4	015								
Helen Pt.	46	3	098								
Mary Anne Pt.	52	6	020								
Gossip Reef	58	6	045		vis. 5m						
Position	0824	26	030								
Half Speed	31	7	Var.		vis. 3 1/2 m.						
Breakwater	33	2									
Arrive Tsawwassen	37	4									

0742-57 stand by
 0749 Met "vic"
 0828 Standby

✓ Steering
 ✓ Radios
 ✓ Kiddie
 ✓ Telegraph
 ✓ Long Range Radar
 ✓ Clock

Tides
 Fulford Harb.
 0615 H.W. 9.1
 1440 L.W. 2.1
 2350 H.W. 11.1
 1055 > Knapp
 1812 Is.

Figure 31

Figure 31 shows part of a page in a ferry log book.

Next to the log book, on a big table, there was a nautical chart, and a whole collection of charts in a drawer underneath. They didn't seem to be used very much, so we asked why.

"Well, we know this route so well that we could sail it with our eyes shut," was the answer. "In fact, in a thick fog at night that's just what it's like."

We noticed, though, the navigators didn't

keep their eyes shut. The Captain rarely left the bridge all the way to Tsawwassen, and when he did he made sure that somebody else took the watch.

Figure 32 shows Captain Callan sending a message down to the engine room on the telegraph. The thing that looks like a trash can in the front is actually a gyro-compass, used for telling in which direction the ship is sailing. This sort of compass gets its direction from a magnet, from the earth's rotation, and from the force of gravity.



Columbia Pilot, shows all the different kinds of buoys.

Exercise

Go back to the nautical chart, and draw in the right kinds of buoys to mark a channel for a large ship drawing four fathoms.

Captain Callan told us that fog isn't the only danger to mariners in British Columbian waters, although it is a serious problem. He told us that sometimes bad storms and huge tidal waves caused by earthquakes far out in the Pacific Ocean, can spring up quite suddenly. He pointed to the ship's radios.

"We have two," he said, "because one is tuned in to the B.C. Ferries by special wavelength so that we can keep in touch with the terminals and other ships. The other is kept constantly on 2182 kc/s (kilocycles), the emergency wavelength all ships use."

Driftwood is a special danger in British Columbia, so we copied down the whole section from the *British Columbia Pilot* (p. 53).

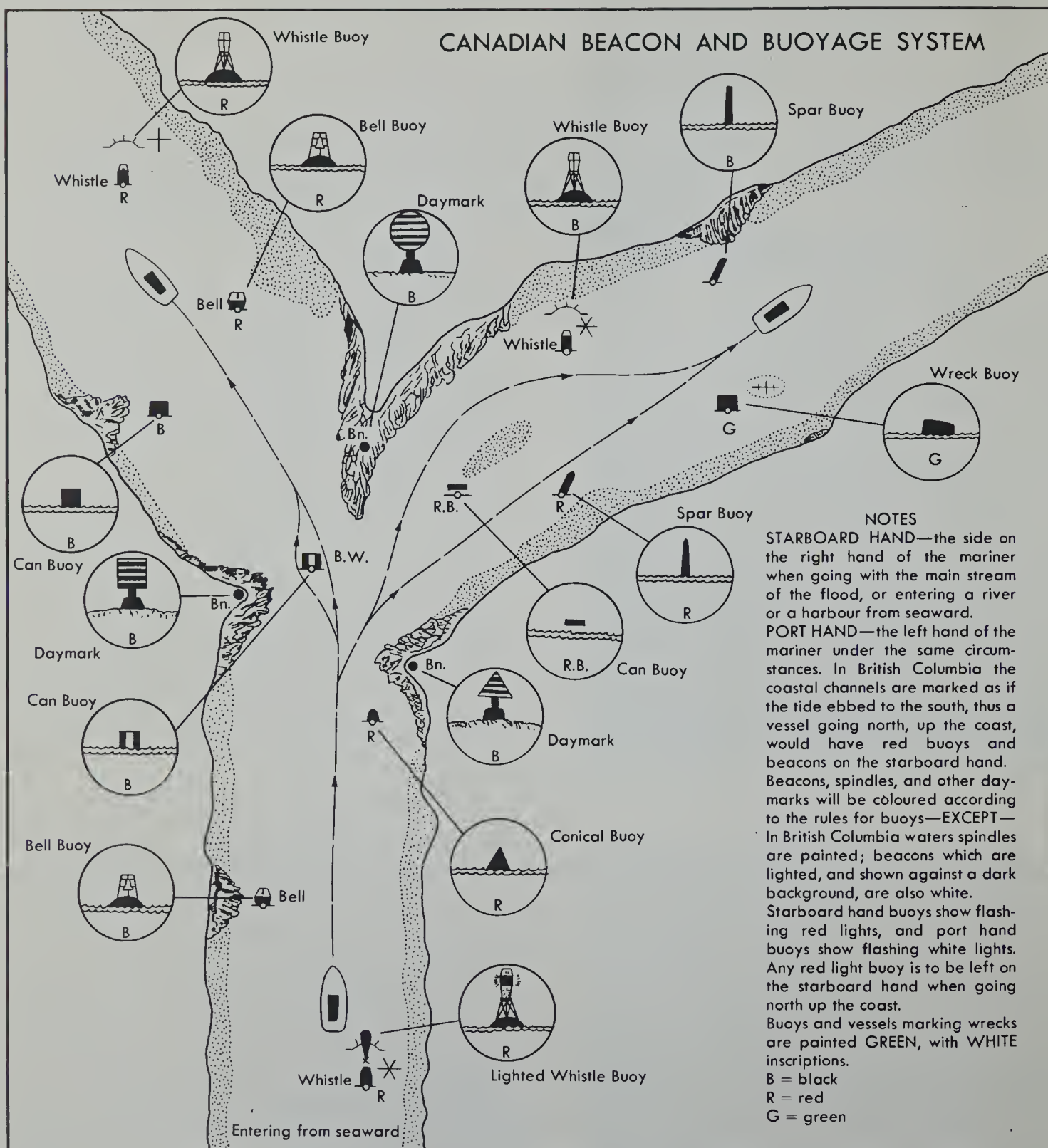
Figure 32

We wondered how a strange ship would manage getting round all the rocks, islands, currents and other dangers; it seemed difficult enough for the ferryboat captains who travel their routes every day. Mr. Porter told us that ships can use the buoys as markers, like he does when he's sailing his small boat around Vancouver Island. But it's not always safe; a buoy can get damaged, sink, or just come adrift, in which case it could lead a vessel right onto the rocks it was supposed to mark. Figure 33 adapted from the *British*

Driftwood: Drifting logs are an ever present menace to navigation, especially in the Inner Passages, and for this reason, small vessels particularly, are advised to exercise extreme caution when running at night.

All sizes of logs, up to 60 or 70 feet in length, as well as brush, are likely to be encountered in the channels. Sometimes they are encountered singly, but more often there are many of varying sizes concentrated in a relatively small area. These concentrations are usually to be found where there are tidal swirls and eddies.

Figure 33



Occasionally an entire tree, complete with branches and foliage, may be encountered, usually during the early summer when the rivers are in their freshest stage and great quantities of debris are washed down.

Storms and extreme tides are mostly responsible for drifting logs which are washed off beaches. During calm weather they may be found lying in any direction relative to the channel, but if there is any sea they usually lie in the trough of the waves.

A particular bad danger is the "dead-head", which is a log that has become so waterlogged that it is almost entirely submerged; it usually assumes a vertical position with its upper end awash, or just

below the sea surface. It is often invisible during daylight unless there is a slight or swell to cause it to break.

Notification of dangers to navigation, such as large logs or deadheads, are often broadcast as Navigation Warnings from the coast radio stations on a frequency of 2182 kc/s.

My sister came running up and said that she had just taken a picture of a current. Sure enough: Figure 34 shows a riptide which can reach over ten knots — fast enough to sweep away a small boat. The big ferries don't seem to have any difficulties, but we did notice that the Captain steered clear of its main flow.

Figure 34



Docking Bells

From Wheelhouse.

1. Long Bell

30 sec. before sailing time.

3. Rings let go.

From Loading Door Position.

1. Ring - up ramp.

1. Long 3. Short

all clear - or - secured.

Manoeuvring Answer Bell.

1. Bell stop.

1. " $\frac{1}{2}$ ahead.

2. " $\frac{1}{2}$ astern.

3. " Full ahead - or - Full astern.

1. Long 3. Short all clear.

A small motorboat passed very close to the *Queen of Sidney*. It would have been smashed into pieces of driftwood if it had run into our ship. We guessed that, in order to prevent collisions at sea, there were traffic rules. The Captain told us the old rule that sail takes precedence over steam and motor vessels, but added that small boats and fishing boats are warned to keep out of the way of the ferryboats, freighters and liners that come into Vancouver and Seattle. These main routes are called shipping lanes; a small boat crossing a major shipping lane has to be on the lookout all the time. Captain Callan noticed that I was carrying the *British Columbia Pilot*, and told me to look up page 52. (He must know that book by heart.) The following is an extract from that page.

Fishing Vessels. Caution. Mariners are advised that fishing vessels of all types may be encountered within the waters covered by this volume, the heaviest concentration being during the salmon fishing season. . . .

. . . Four short blasts on the whistle or siren is the recognized signal to warn fishing vessels of approaching traffic.

If running over a fishing net is unavoidable, the vessel's engines should be stopped immediately and the vessel's course continued straight across the net in preference to attempting a turn. . . .

As we approached Tsawwassen, the bow screw and the two stern screws were turned on and off to manoeuvre the ship into the dock. We were the only people on deck; all the other passengers were crowding around the stairways, waiting to get into their cars and drive off along the causeway. Bells were ringing. Figure 35 shows the sign which explained to us what the bells meant. We stayed on board, because we were going right back to Swartz Bay to find out how the whole ferryboat system operates.

Exercise

1.
How do you steer and stop a sailboat?
2.
What difficulties would an airplane pilot have that a seaman wouldn't?

VI: Safety at Sea

Figure 36

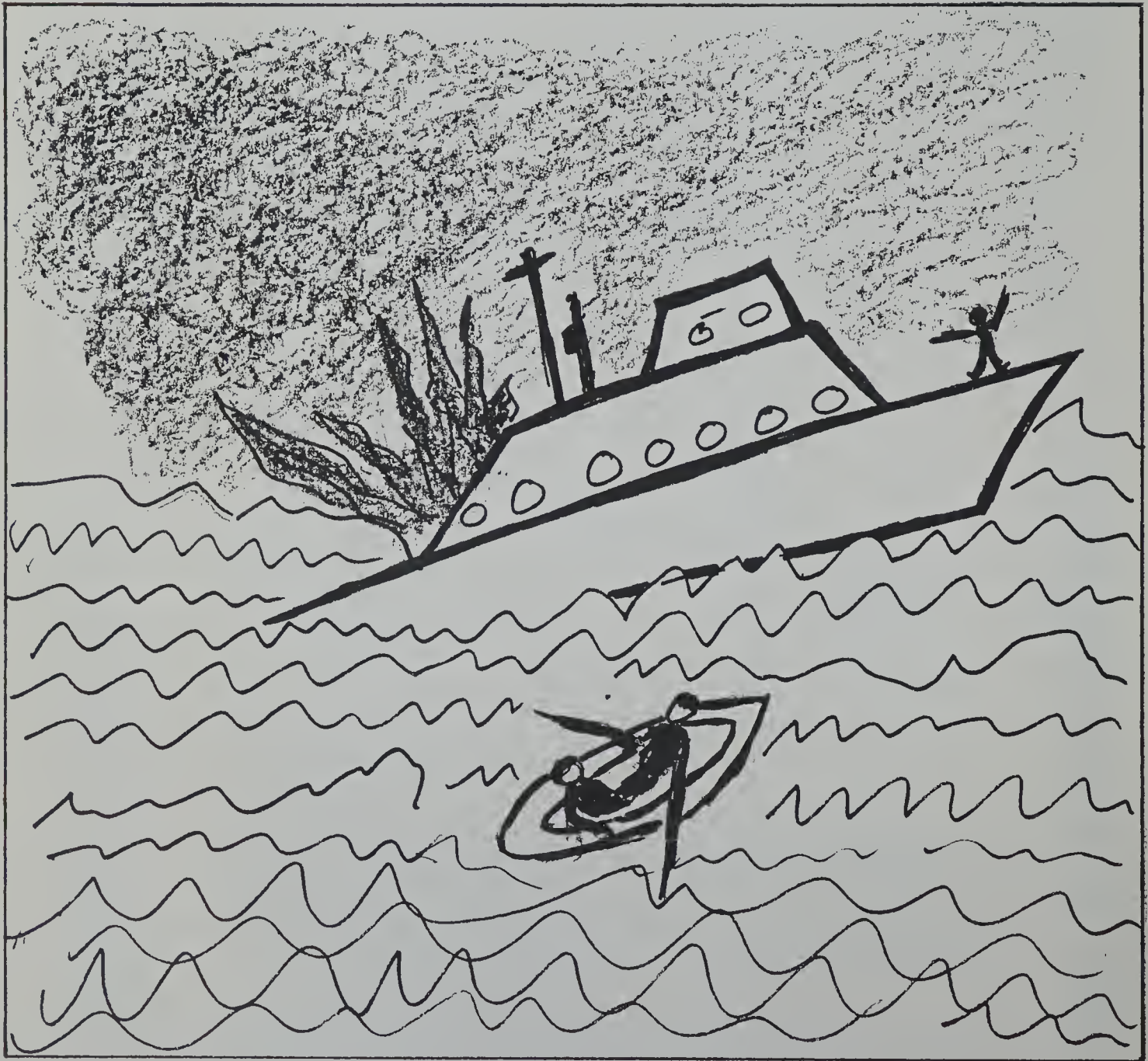




Figure 37

I read in the paper about a Korean sailor who fell overboard near Nicaragua, and saved himself by holding on to a giant turtle. Mr. Porter said that if we looked around the ship we would find three other different ways people could be saved from drowning. We found four.

Life-jacket containers were all over the ship; some people were sitting on them. I asked a friendly, red-bearded man to put on a life jacket so we could take a picture of one. His name is John Marsh and he was in British Columbia for his holidays.

A sailor stopped and told us that if the



Figure 38

ship were sinking the passengers would be sent to different muster stations around the decks, so that too many people wouldn't crowd into one lifeboat and swamp it.

"Wouldn't people start fighting and pushing," I asked him.

"We hope not," he said, looking quite serious, "although that has happened. The rule of the sea is that we put the women and children into the boats first. Nobody argues with that. When we get to port I'll see if you can climb into one of the boats and I'll show you around. Every boat has its water and concentrated food supplies, signal flares, lights and even a small radio."

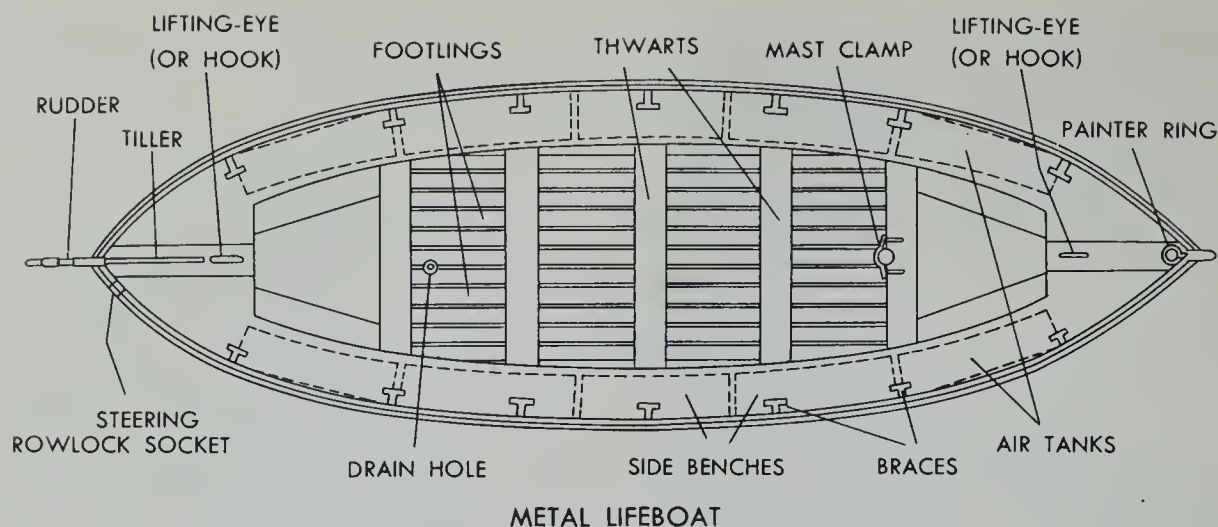


Figure 39

Exercise

1.

Look at Figure 39. What do you think keeps the boat from sinking in rough seas?

2.

What do you think the drain hole is for?

3.

How many people do you think could get into this lifeboat?

4.

Can you see from Figure 40 how the lifeboat is lowered into the water?

5.

Opposite is a list of equipment in a lifeboat. What else do you think should be in a lifeboat? What are all these things used for?

6.

Find a picture of a lifeboat in this book, and spot the lifeline.

7.

Why do you think it must have a sea anchor?

8.

With a model boat, experiment to see how much you can put in it before it swamps.

9.

How could a lifeboat's lifeline be used to avoid swamping the boat?

Equipment Required on Lifeboats (Ocean or Coastwise Vessels)

- 1 *bailer* with lanyard attached
- 1 *bucket* with lanyard attached
- 1 *liquid compass*
- 12 *red self-igniting distress lights* in a watertight metal case
- 1 *canvas ditty-bag* containing sailmaker's palm, needles, sail twine, marline and marline-spike
- 2 *enamelled drinking cups*
- 1 *flashlight* with one extra lamp in a portable watertight metal case
- 2 *hatchets*, attached by lanyards, one at each end of the boat
- 1 *gallon of illuminating oil* in a metal container
- 1 *lantern*
- 1 *lifeline* (around the boat)
- 2 *life preservers*

- 1 *locker* or box for storage and preservation of small articles and equipment
- 1 *mast*, or more, with at least one good sail and proper gear for each, the sail and gear protected by a suitable canvas cover. (North of latitude 35 degrees North a vessel equipped with radio is required to have only one lifeboat on each side of the vessel so equipped.) Motor lifeboats are exempt from this requirement.
- 1 box of friction *matches* in a watertight container
- A single-banked complement of *oars*, with 2 spare oars and a steering oar. Motor lifeboats and those equipped with hand-operated propelling gear must be equipped with 4 oars and 1 steering oar.

Figure 40



- 1 *painter*

Plugs, or automatic plugs, for drain holes. Decked lifeboats having no plug hole must be provided with at least 2 *bilge pumps*.

- 1 airtight receptacle containing 2 pounds of *emergency provisions* for each person. Condensed milk must be included on all passenger vessels on international voyages.
- 1 set and a half of thole pins or *rowlocks*, attached by separate chains
- 1 *rudder* having either tiller or yoke and yoke lines
- 1 *sea anchor*
- 1 *signal pistol* with lanyard attached, and 12 red lights
- 1 gallon of *storm oil* in a container

Wooden water breakers or suitable tanks filled with spigots, and containing 1 quart of fresh water for each person

MOTOR LIFEBOATS, in addition to the above, must carry 2 carbon tetrachloride *fire extinguishers*, 1 or 2 *bilge pumps* (depending on the size of the boat), *searchlight* with 2 spare bulbs, and *radio*.

Whistle signals may also be used to give the commands required when handling the boats, in which case one short blast means Lower the boats; two short blasts, Stop lowering; three short blasts, Crew dismissed from boat stations.*

*From *Piloting Seamanship and Small Boat Handling* by Charles F. Chapman (Copyright 1962 by The Hearst Corporation, 959 Eighth Avenue, New York, New York, 10019).



Figure 41

Next, the sailor pointed to the barrels you see in Figure 41. He explained that they were containers for inflatable life rafts. You throw them in the sea, and then pull on the rope. Pop! Out comes a life raft which blows itself up and which has a tent on the top to keep out the rain.

Man Overboard Procedure (From the Ship's Book — MV Queen of Sidney)

The following action is to be taken by the Officer of the Watch in the event Man Overboard is reported or actually seen.

Stop engines. (If applicable.)

Wheel hard over to side man has gone over. (If applicable.)

Throw life buoy over. (If applicable.)

Sound 3 long blasts.

Post lookout. (Monkey Island.)

Hoist letter "O".

Inform Master.

Order away Emergency Lifeboat Crew. (PA or Bull-Horn.)

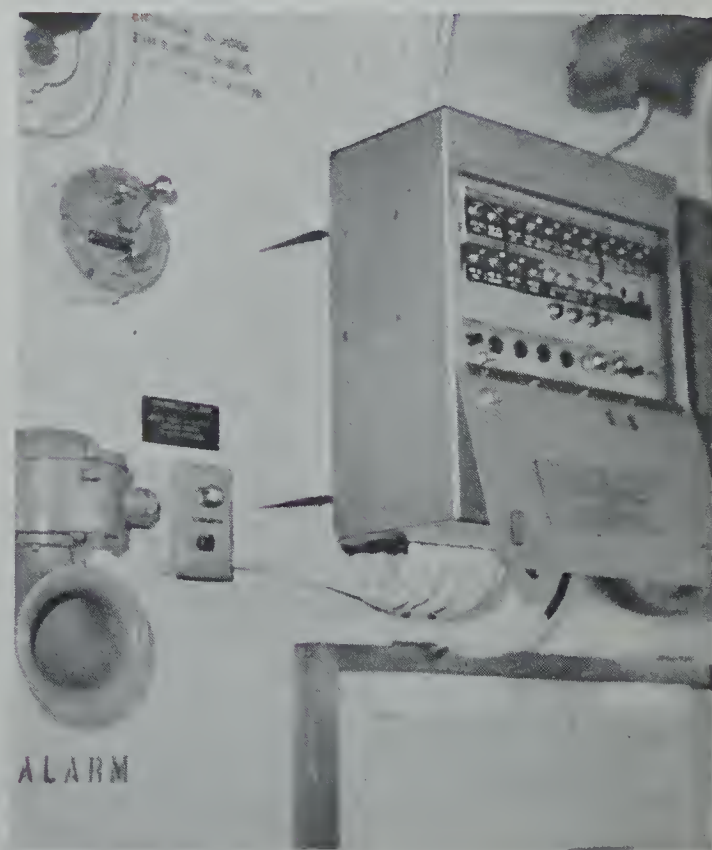
Conn ship back to spot man went over.

Report to Search and Rescue.

In order to deal with the biggest danger of all, fire, the ship is prepared with bright red fire alarms, as well as fire bells, hooters, and fire extinguishers. In the ceilings of most of the rooms and corridors there are small glass tubes which break if the temperature gets very hot (as in a fire) and which automatically release the sprinklers. The Captain told us that the ship's sprinkler system uses water kept under pressure, and is controlled from the main control console.

He took us to the car deck and showed us how lines of sprinklers make walls of water to stop a fire from spreading. Do you under-

Figure 42



stand why the cars and buses have to park carefully in lines and rows, (see Figure 56), and why the officers who manage the car-loading are strict as to where people park?

Figure 42 shows a sprinkler alarm buzzer that will sound if one of the sprinklers starts working. The box of lights next to it shows exactly where the fire is.

I was thinking of lawn sprinklers and wasn't at all sure that they would be enough to put out a fire. I told Captain Callan that I wouldn't trust the sprinklers.

"Oh no. Neither would we. They're just to keep the fire down, and to stop it from spreading."

He took us out on deck and showed us the real fire pumps (Figure 43). These use sea water, and work from the ship's auxiliary engines.

Figure 43

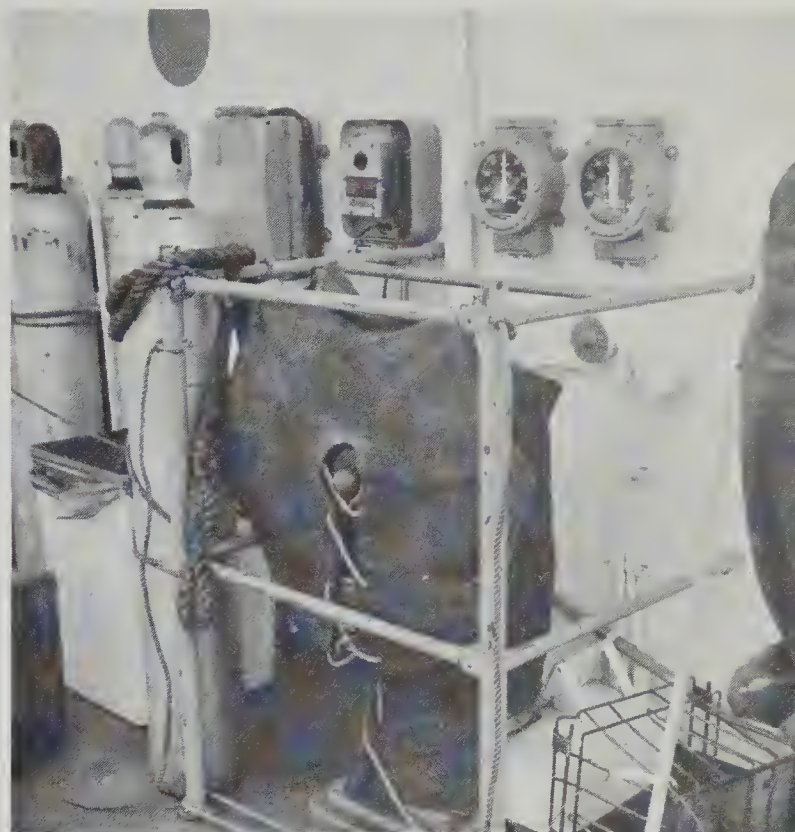
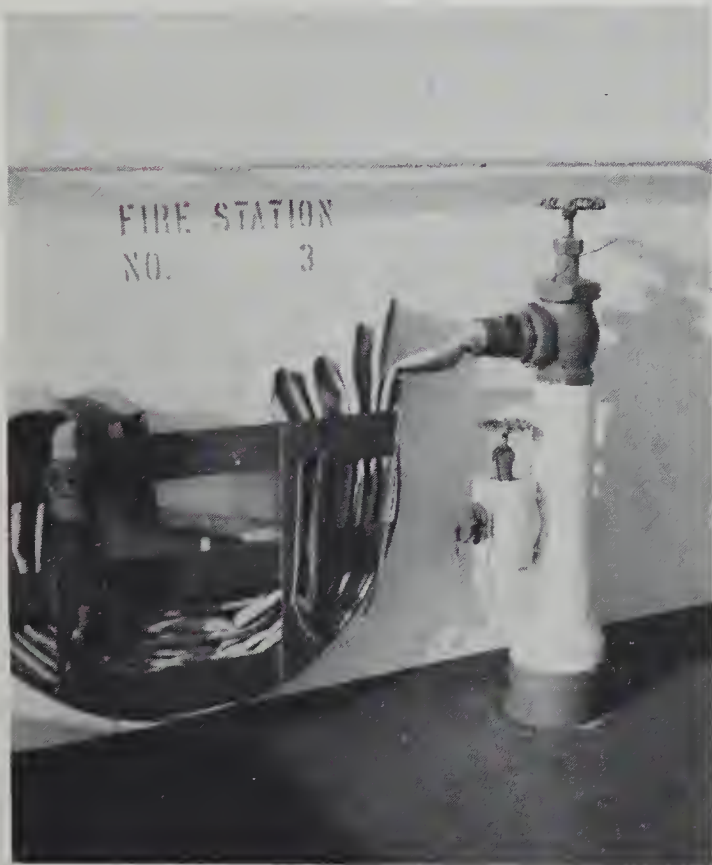


Figure 44

We were walking around the stern of the ship behind the galley, and Captain Callan pointed to the "spare wheel" in a canvas covering (Figure 44). In case a fire breaks out on the bridge, the spare wheel can steer the ship just like the wheel on the bridge. Also, it has the same two dials to check that the helm and the rudders are working.

Exercise

1.

Make a complete list of the precautions against fire at your school and where you live.

2.

Perhaps your class could invite a fireman to visit and explain all his equipment, or maybe you could visit the fire station.

Work on a ship, including safety measures, must be well organized so that the entire crew knows what to do and when to do it. This is a list of all the job positions that are found on a large ferryboat:

Master
Chief Officer
Second Officer

5 Seamen
Chief Steward
Second Steward
7 Stewards
Stewardess
Cashier
2 Busboys
2 Waitresses
Cleaner
Chief Cook
Second Cook
Third Cook
Pantryman
Pantryman Helper
Dishwasher

Chief Engineer
Second Engineer
Junior Engineer
Oiler

Exercise

1. *Why do you think the job positions are divided into three sets?*
2. *Could you invent a title for each set that would explain this?*

3. *If the journey took fifteen minutes instead of over an hour, which jobs would disappear?*

Every member of the crew has a list of jobs. These sailors are cleaning up and repainting the *Queen of Saanich* while it is laid up for refitting. Even the waitresses have

Figure 45





Figure 46

special jobs to do when there is no one to wait on. Can you tell what they are doing in Figure 46?

The following are parts of two work sheets that the Chief Officer gave us.

From General Orders, Deck Department, Maintenance and Cleaning Routines

A.M. Shift — Major Vessels

1. Every Day

- (a) Secure blackout screens.
- (b) Load and discharge store containers.

- (c) All exterior decks washed down with fresh water.
- (d) All windows washed with fresh water and squeegeed.
- (e) All exterior hand rails and seating to be washed down and wiped off.
- (f) Wheelhouse and Bridge: Polish deck, clean windows, shine brass, dust instruments and furniture, etc.

- (g) Passenger access companionways from vehicle deck to passenger accommodation: Perform running maintenance.
- (h) Ship's bell shined.
- (i) Seamen's mess, locker rooms, and heads: Running maintenance.
- (j) Car deck: Running maintenance.
- (k) Exterior decks: Running maintenance as required.
- (l) Such special projects as the Marine Superintendent may direct.

British Columbia Ferries

Engine Room Shift Maintenance Record Afternoon Shift

Every Day

1. Correct operation of all plumbing fixtures in passengers' and crews' wash places checked (except women's wash places).
2. Fuel oil centrifuge shut down as required.
3. Main and auxiliary diesels' miscellaneous external parts and monobloc fuel pumps' cases to be oiled and greased as required.
4. All air receiver moisture drains blown out.
5. Cathodic system checked for correct operation as indicated by meters. Abnormal readings to be noted below.
6. Lubricating oil levels checked in reduction gear sump tanks.
7. Lubricating oil levels checked in main and auxiliary diesels, turbo-

blowers, air compressors, and air-conditioning compressors.

8. Lubricating oil centrifuge shut down, cleaned, and restarted as required.
9. Bilges pumped.
10. All S.W. and F.W. pumps in service in engine room, water end grease cups to be given one-half turn per shift.
11. Boiler water tested and treatment added as required.
12. Exhaust elbow and silencer drains opened and cleared.

Lifeboat duties are specially organized in the following way:

- Each crew member is assigned to a lifeboat station.
- Practices are held frequently.
- The Chief Officer is responsible for choosing 14 crewmen and training them to be an efficient Emergency Boat Crew.
- The boat crew consists of a coxswain, 6 oarsmen, a man stationed at the bow, and the Chief Officer.
- The same 14 crewmen also act as the Emergency Fire Fighting Team.

Exercise

1.

Do you think it is necessary to have definite job positions, schedules and work lists? How do you think a ship would operate if there were none?

2.

Can you find some similarities in the way a ship orders its operations and the way your household or classroom orders theirs?

VII: How the System Works

When we visited the main office in Victoria, the manager explained to us that one of the reasons the British Columbia government took over many of the small ferryboat companies was so that they could organize a really good service to all the islands — it could be quite serious for people to be left without a boat when they expected one.

Figure 47 shows all the ferryboat routes in B.C. as well as those that go across to the U.S.A.

The following statistics show the change in the number of people and vehicles carried on the ferryboats of B.C. Can you tell how and by how much these numbers have changed?

The manager explained that by keeping accurate statistics, and by analysing them and making breakdowns into daily, weekly, monthly and yearly flow, the company can make projections about how many people

will need ferry transport next week, in a few years, and so on.

Exercise

1. *On a piece of graph paper, plot all the statistics for revenue (years on the horizontal axis, revenue on the vertical axis). Don't join the points, but draw a straight line through them so that about the same number of points fall above the line as fall below the line. If you continue this line further than the last point, you may make a projection.*
2. *Roughly how many vehicles does your projection give for 1975? how many passengers? how much revenue?*
3. *Why do you think it is important for the ferry companies to make projections?*

British Columbia Ferries

Year end — March 31st, 1963	\$ 9,800,000	2,800,000	960,000
Year end — March 31st, 1964	11,750,000	3,330,000	1,070,000
Year end — March 31st, 1965	12,700,000	3,500,000	1,200,000
Year end — March 31st, 1966	16,200,000	4,000,000	1,333,000
Year end — March 31st, 1967	20,115,000	4,600,000	1,666,000
Year end — March 31st, 1968	19,880,410	4,773,493	1,697,068
Year end — March 31st, 1969	21,751,437	6,020,994	1,732,580

Figure 47



4. *What sorts of changes could make these approximate projections very inaccurate?*

The manager then took us to meet other managers, all in different offices. There was

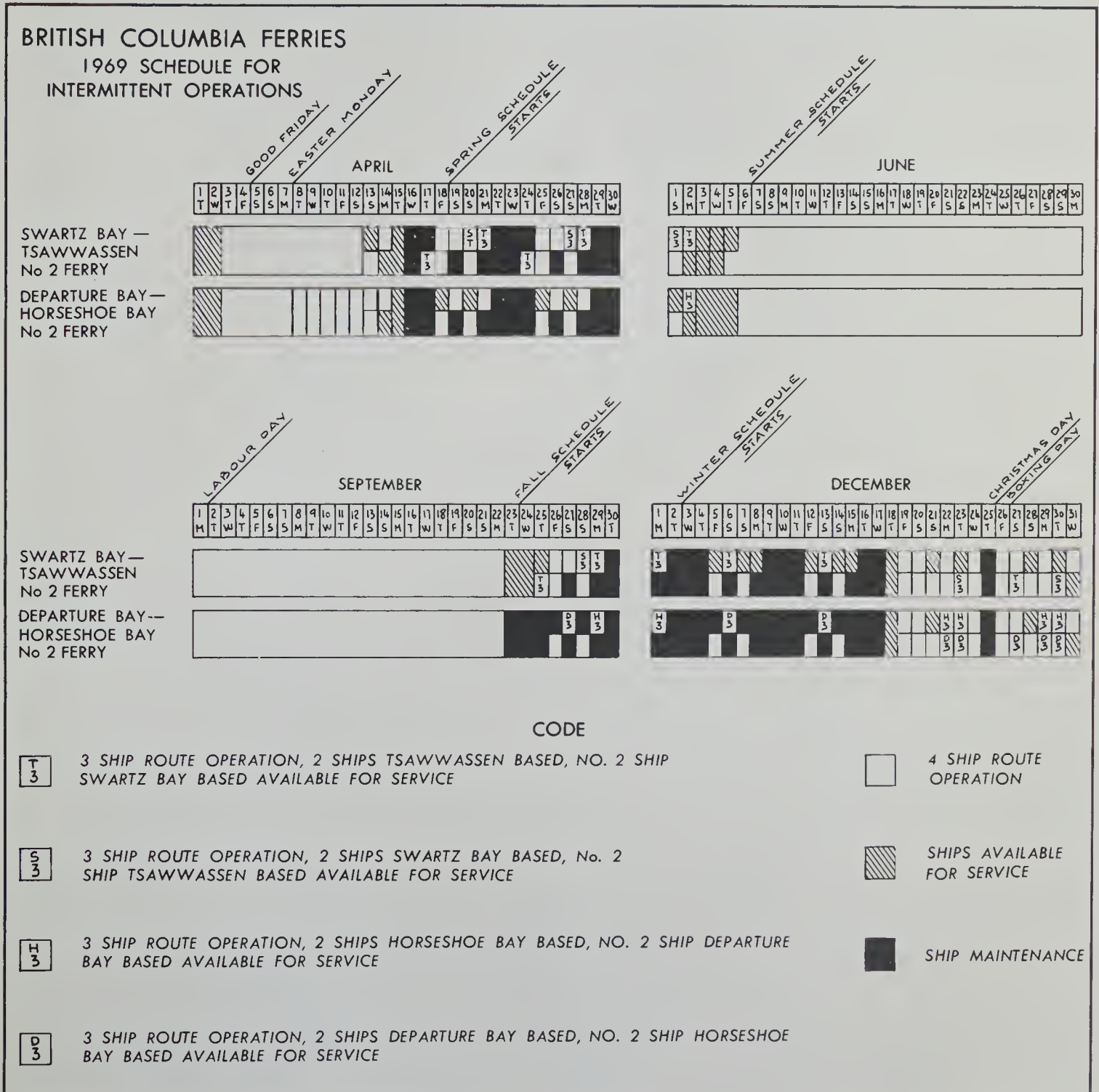
a provisions manager, staff manager, engineering manager, planning manager and scheduling manager. At Swartz Bay, there is also a maintenance manager. Every termi-

nal, as well as the head office, has six managers.

The scheduling manager showed us a chart (Figure 48) made by forecasting based

on traffic projections which shows when extra trips have to be made. A chart like this helps to decide who can have a vacation and when.

Figure 48



"That's why Mr. Wong never gets a vacation at the same time as school holidays!" my sister concluded.

"Well, I expect he does sometimes," the scheduling manager said. "But everyone wants off then because most of the men have families. And vacation time is just when most people want to use the ferries." (See Figure 48.) "It must be just the same for people who work on buses or other kinds of public transport."

Exercise

1. Do you know other people who cannot take

Figure 49

a vacation when their children are on holiday from school?

2. Most ferryboat traffic is at holiday time. What other activities increase at holiday time? From where do they get the extra workers?

3. Which is the easiest time of year to get a job in Canada?

4. Where do you think the boat in Figure 49 is used? What do you think the flags mean?

5. What is different about the bow of the ship in Figure 50 compared to ordinary boats?

6. Why does this ship need a special bow?



Figure 50



Look at the ferryboat schedules and find out between which two docks the runs are most and least frequent.

Figure 51

GULF OF GEORGIA CROSSINGS

Between the Mainland and Vancouver Island

APRIL 17th — JUNE 4th

VANCOUVER — VICTORIA ▲

Daily sailings on the hour indicated. Crossing time 1 hour, 40 minutes.

Vancouver TO VICTORIA Lv TSAWVASSEN				Victoria TO VANCOUVER Lv SWARTZ BAY			
S	M	TW	T	F	S	S	T
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11
12n	12n	12n	12n	12n	12n	12n	12n
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10

NOTE.—Extra sailings will be scheduled for the Victoria Day weekend — May 15th–20th

Foot passengers are required to purchase fare 10 minutes before sailing time.

HOW TO GET TO TERMINALS: Vancouver (Tsawassen)—20 miles south of city, 23 miles from U.S. border. From Hwy 499 turn west on Hwy 17 to terminal. Vancouver (Horseshoe Bay)—13 miles from downtown. Drive through Stanley Park to West Van-

couver, follow Upper Levels Hwy (99-1) to Horseshoe Bay. Or from Trans-Canada Hwy (401) cross Second Narrows Bridge, follow the route signs. Victoria (Swartz Bay)—20 miles north of city on Hwy 17. Nanaimo (Departure Bay)—2 miles north of downtown. Follow

Trans-Canada Hwy (1) through city. Southbound from up-Island—turn off Hwy 19, just north of Nanaimo, to terminal. Comox—turn east from Courtenay, follow route signs through Comox to Little River terminal. The Powell River terminal can be seen from Hwy 101.

APRIL 17th — JUNE 5th

VANCOUVER — NANAIMO ▲

Daily sailings on the hour indicated. Crossing time 1 hour, 50 minutes.

Vancouver TO NANAIMO Lv HORSESHOE BAY				Nanaimo TO VANCOUVER Lv DEPARTURE BAY			
S	M	TW	F	S	M	TW	F
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11
12n	12n	12n	12n	12n	12n	12n	12n
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10

NOTE.—Extra sailings will be scheduled for the Victoria Day weekend — May 16th–20th

✱9 pm sailing from Horseshoe Bay on Tuesday, Thursday, and Saturday is delayed ½ hour for refuelling.

VIII: Old Boats and New Boats

We spent the rest of the morning in the Maritime Museum, which is only a few yards

from the ferryboat offices. Mr. Porter found this story in an old history book there.

Figure 52



Beef on the hoof was frequently part of the freight, and many were the lurid and incredible scenes that took place when the wild range cattle were being loaded. Many a time the crew took to the upper reaches of the masts when a drove of wild cattle took possession of the deck. Every now and then cattle would rush aboard and rush right across the ship and through the railing on the other side and leap into the waters of the inlet. Then they would swim for dear life, while the crew tried to round them up in rowboats. Some would swim ashore further down the inlet and be rounded up by interested spectators, others would get ashore and roam through the city for days before they were rounded up again.

In the old days there were only steamers that sailed mainly from New Westminster, which is part of Vancouver, to all the little settlements and camps along the coast and up the Fraser River. The following story explains what it was like.

On April 22, 1901, the *Comox* sailed from Vancouver for Shoal Bay and way points with a good load of freight and passengers. She stopped at various mining and logging camps, at most of which she only stopped on call. It was customary at these small settlements to put out a flag in daytime if the steamer was to call. At night a lantern was placed on the wharf and the *Comox* would nose her way in through the darkness. She went in and out of the small bays where the entrances were narrow and dangerous at all hours of the day and frequently in the pitch darkness of night. Navigation of these inlets and passages required the greatest skill.

Frederick Arm runs a way inland, just off the northern end of Valdez Island. It so happened on this occasion that there was no need for the *Comox* to call, so the postmaster did not put out a lantern but just went home to bed, and for some reason left a light burning in his bedroom. The *Comox* entered the bay in complete darkness about two a.m., saw the light burning and slowly made her way towards it. There was a swift tide running through the narrows, and it was not until too late that the pilot realized he was not at the wharf. The strong tide carried the steamer well up onto the rocks, right below the postmaster's window!

We wondered what happened to all the old ferryboats that didn't sink or get burned. We found out that, while most of them were broken up for scrap, like old cars, some of them are still used for rougher work like hauling logs, and some are used as floating fish camps. (Old ocean liners, like the *Queen Mary*, can be turned into floating hotels.) The really old ferries, like the one in Figure 52, have been broken up or displayed in museums.

We had a long talk with the planning manager in Victoria about what was going to happen to the ferryboats in the next few years. He said that adjustments to the existing ferryboats would take care of the traffic increase expected over the next few years.

He also explained that although every big ferryboat now had platform decks (Figure 56), only the *Queen of Esquimalt* had been "stretched" so far.

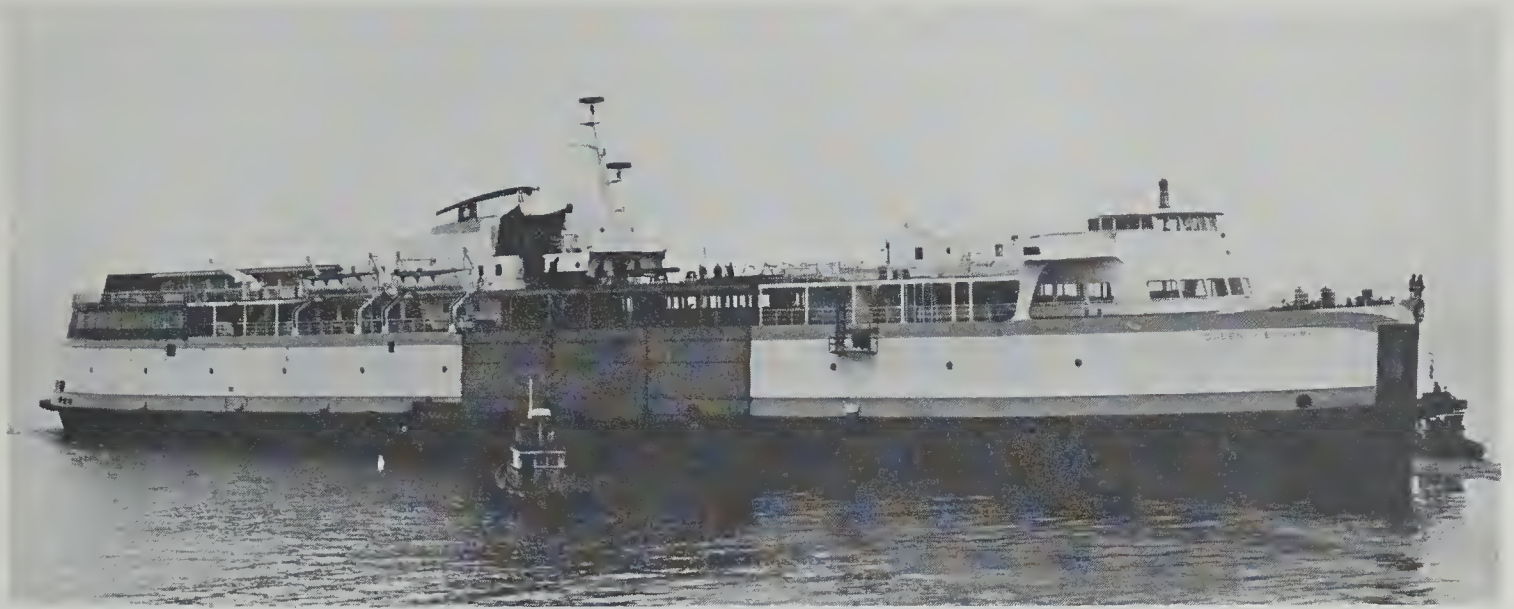
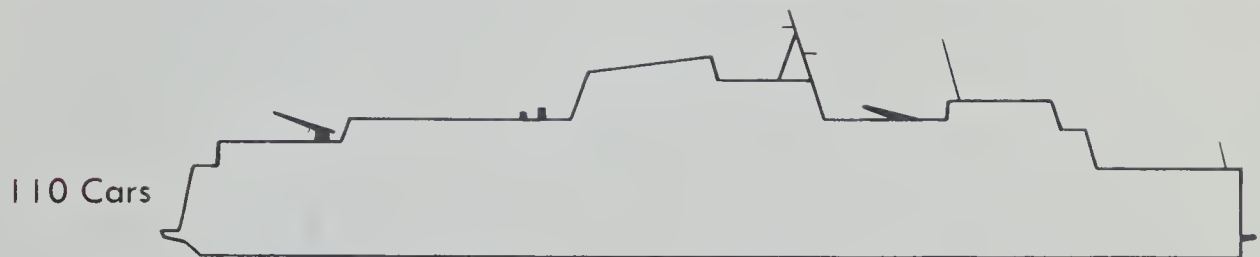


Figure 53

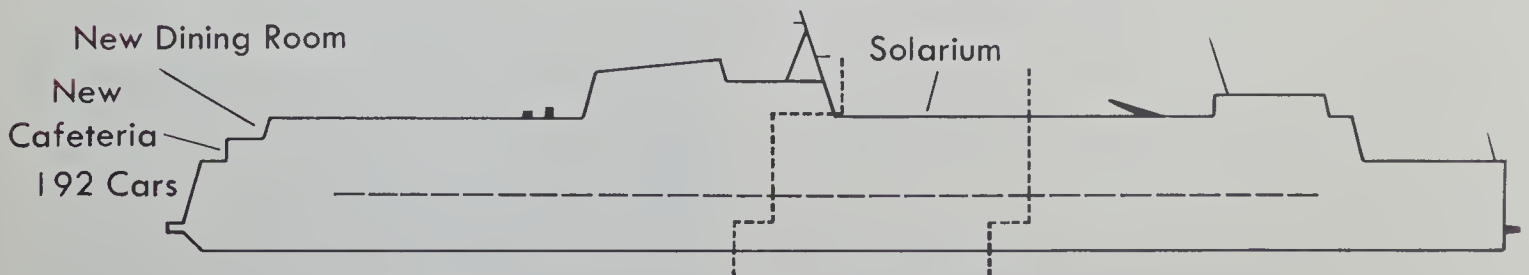
Figure 54



MV Queen of Esquimalt As Originally Constructed



Platform Decks Added in 1967



MV Queen of Esquimalt With New 84' Mid-Ships Addition

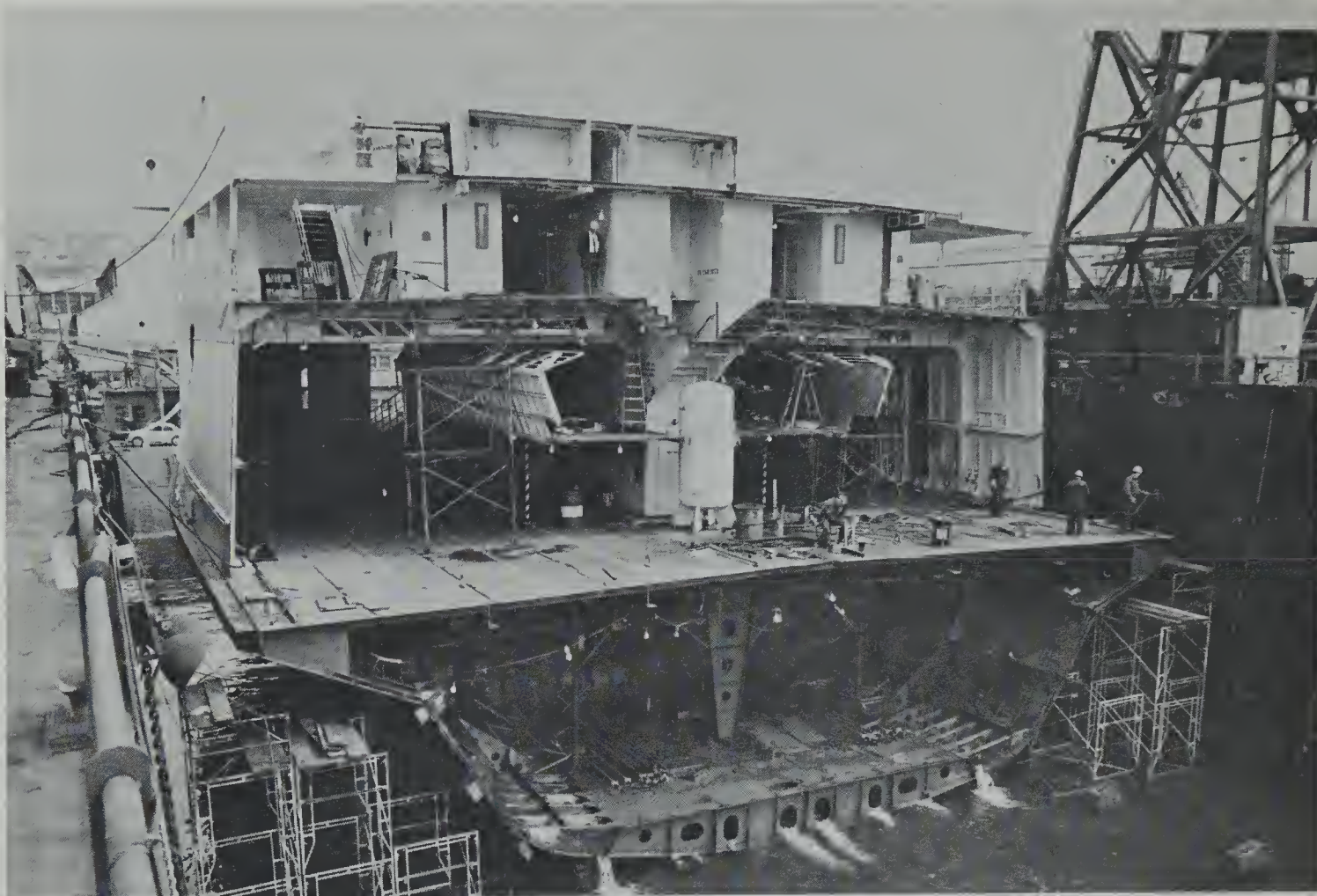


Figure 55

Stretching the rest of the boats (Figure 55) would give space for about 30 percent more cars, which would take care of peoples' ferryboat needs for the next few years.

"Yes, but what happens after that?" I asked.

"We have thought of ordering some larger vessels with two car decks, each with platform decks."

"Wouldn't larger vessels mean you had to build bigger terminals and perhaps dredge some of the channels?" asked Mr. Porter.

Figure 56

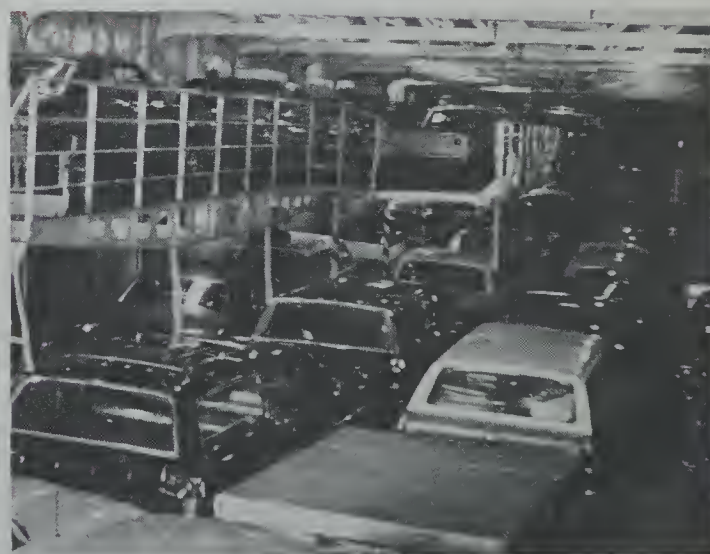




Figure 57

The manager said that wouldn't be a problem. He also said that they were thinking of building some bridges between some of

the islands, to cut down on the need for small ferryboats and to lessen the distance between main terminals. (See Figure 57).

Figure 58

Excerpt from B.C. Ferries Rates and Fares Schedule

<i>Between</i>	<i>Auto</i>	<i>Pass.</i>	<i>Child (5-11)</i>
Tsawwassen / Swartz Bay; Horseshoe Bay / Departure Bay	\$ 5.00	\$ 2.00	\$ 1.00
Tsawwassen / Gulf Islands	5.00	2.00	1.00
Saltspring / Galiano / Mayne / Saturna / Pender Island	1.25	.50	.25
Saltspring / Swartz Bay or Saltspring / Crofton	1.25	.50	.25
Swartz Bay / Pender, Mayne, Galiano or Saturna Islands	2.50	1.00	.50
Horseshoe Bay / Langdale; Earls Cove / Saltery Bay	3.00	1.00	.50
Horseshoe Bay / Saltery Bay (combination)	5.25	1.75	.90
Horseshoe Bay / Bowen Island (round trip)	3.00	1.00	.50
Brentwood Bay / Mill Bay	1.25	.50	.25

Car & Driver Charges

Kelsey Bay / Beaver Cove	10.50	3.00	1.50
Kelsey Bay / Sointula or Alert Bay	14.00	4.00	2.00
Beaver Cove / Sointula / Alert Bay	3.50	1.00	.50
Kelsey Bay / Prince Rupert	60.00	30.00	15.00

Exercise

1.

Why might it be necessary to dredge some of the channels if two-deck ferries were introduced?

2.

Look back at your projections, and work out when the 30 percent extra space from stretching would have been filled up.

3.

Can you work out any better bridge, road and ferry routes between Victoria and Vancouver?

"What about one big bridge, right from Vancouver Island to the mainland?" I asked. "Wouldn't that solve all the problems?"

"It certainly would, and bankrupt the province too," he replied. "We can't even

think of building a tunnel, which would be cheaper.”

That reminded us of what we’d read about the Channel Tunnel proposed to be built between England and France. This tunnel would probably have more business than one between Vancouver and Vancouver Island.

We did read that a bridge is possible across the Seymour Narrows, (where it’s very narrow as the name suggests).

“Helicopters,” my sister said. “Why not helicopters? You could use those big new ones. They could land on top of the roof.” And she pointed across to a warehouse on the other side of Wharf Street.

“Much too expensive,” said the manager. “People don’t want to pay more than a few dollars, especially if they have to make the trip often and with a car.” Look at Figure 58 to see what some of the present fares are for various ferry trips.

Exercise

1.

Why are tunnels cheaper than bridges?

2.

Are there any helicopters that can carry cars?

3.

Find out from someone how much it costs to rent a helicopter.

4.

Look at a map of England and France. How long would the shortest tunnel be under the English Channel? Is this shorter or longer than one between Vancouver Island and the mainland?



Figure 59

5.

Why can a tunnel be considered for England and France, but not for British Columbia?

My sister went for a ride on a hovercraft and took several pictures. Figure 59 shows the spray the hovercraft makes when lifted by its own air cushion. She said that she sat in seats like those in an airplane and was served by a hostess (Figure 60). My sister visited the control room you can see in Figure 61. Does it remind you of the front compartment of another form of transportation?

While she was in the control room, my sister had the following interview with the Captain.

Question: Captain, how fast can the hovercraft go?

Answer: We can do up to 65 m.p.h., but don’t usually do more than 40.



Figure 60

Question: What happens if you hit a dead-head or a log at 40 m.p.h.?

Answer: We don't. These things go right over them.

Question: Is this a big hovercraft or a small one?

Answer: It's medium sized. They're working on giant hovercraft now, and will soon have them big enough for cars.

Question: Why are they so expensive to run?

Answer: They use a lot of high octane aircraft fuel.

Question: Is this a regular run?

Answer: Not really. We are just trying to build up a route. Our other hovercraft are on lease to oil companies in the Arctic.

We talked about hovercraft for the rest of the day, while we got ready for the trip back to Calgary. I said that Mr. Wong and all his friends wouldn't have jobs if the ferryboats gave way to hovercraft, because they were too small and too fast for people to want to eat a meal. Mr. Porter said that, although they might build bridges to shorten some of



Figure 61

the routes, nothing, not even hovercraft, could take the place of the ferryboats.

Exercise

1.

On a map of the world, find out which other countries would need a lot of ferryboats. Don't forget the harbours of big cities.

2.

See if you can find out anything about some

of these countries, and how their ferryboats compare with those in British Columbia.

3.

Which other Canadian provinces would need some ferryboats?

4.

Why are there no ferryboats in the Arctic Islands of Canada?

5.

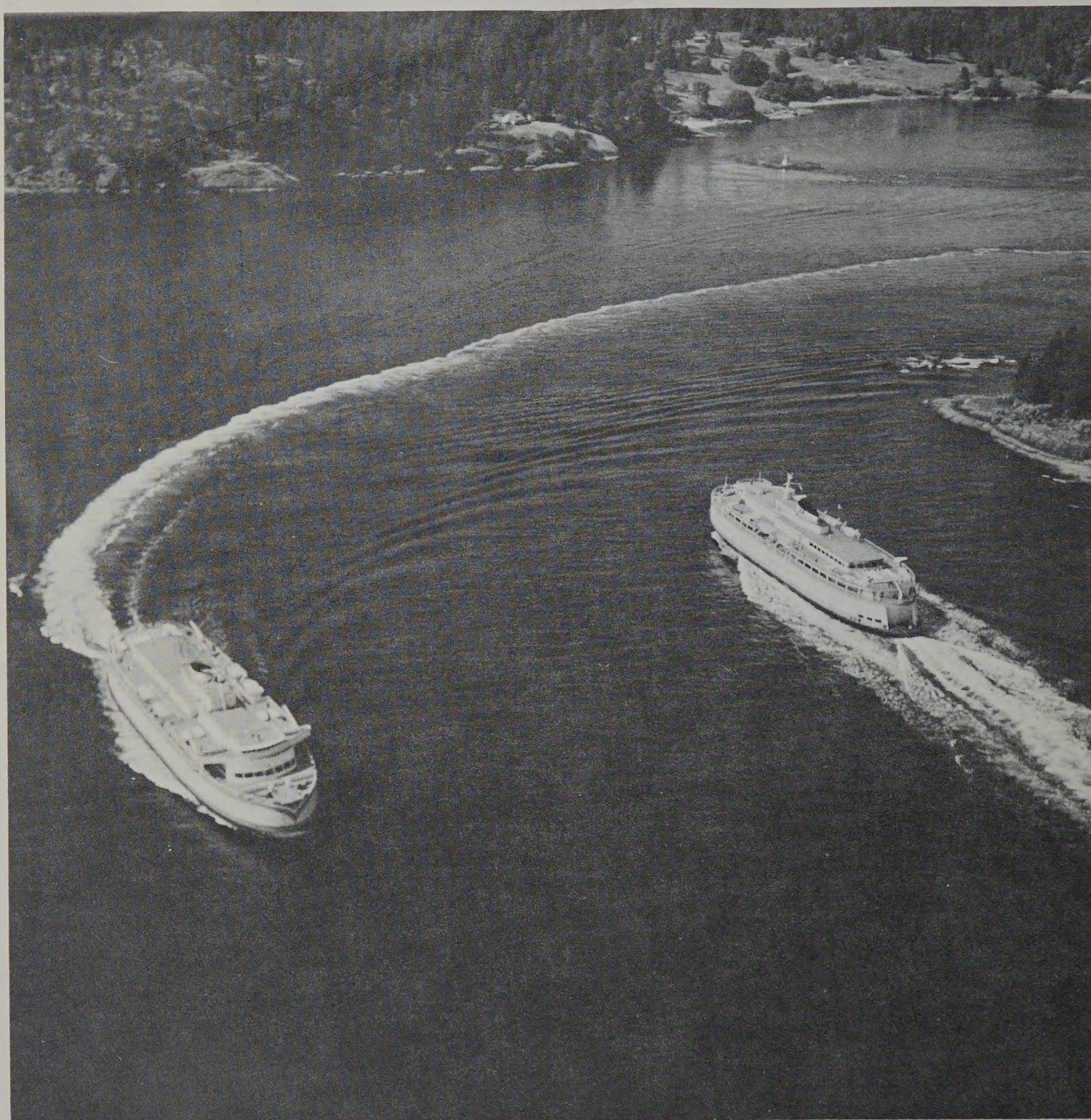
Make a collection of pictures of very new forms of transport. Which of them could

possibly be used in Br
people from Vancouve
islands to the mainland?

can!

ferryboat as soon as you

Figure 62



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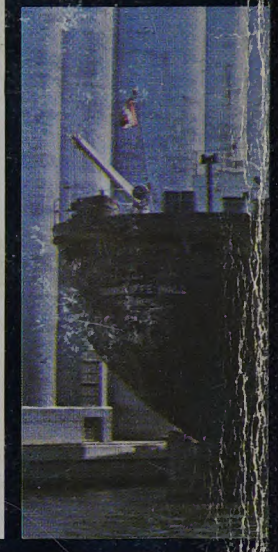
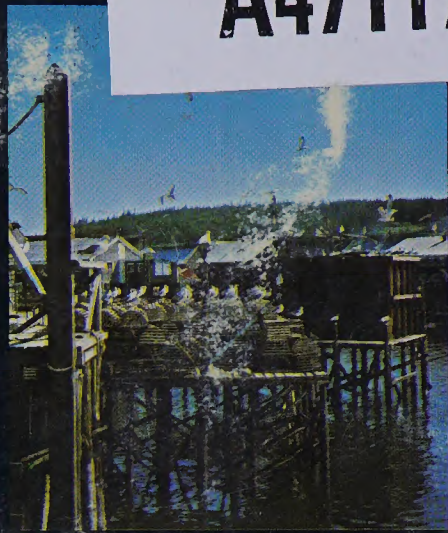
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